ADMINISTRATION REPORT

OF THE

INDIAN STORES DEPARTMENT

FOR THE YEAR

1929-30

CALCUTTA: GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH
1930

Price: Rs. 3 or 5s 3d.

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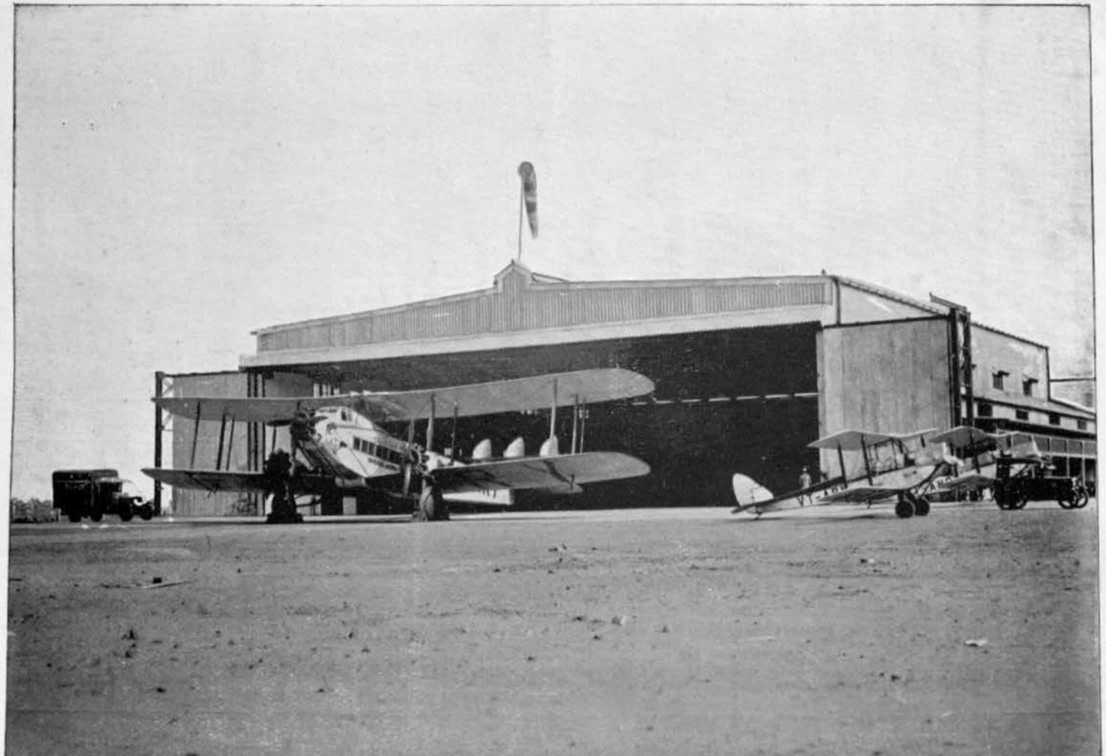
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CHAPTER I.

SUMMARY.

1. *General.*—The year 1929-30 was one of marked progress in every direction of the activities of the Indian Stores Department (*vide* Appendices III, XII, XII-A and XII-B). The industrial unrest, which adversely affected the turnover of the preceding year, had abated before the close of the year, and on the whole more tranquil conditions prevailed.

2. *Utilisation of the services of the Indian Stores Department by Government Departments in India.*—The Indian Stores Department was constituted in January 1922, for the purpose of purchasing various classes of stores required for the public service. Though its services have been utilised, during the past eight years, by several Departments of the Central Government as well as those of Provincial Governments, Company Railways, Indian States and quasi-public bodies, in an appreciable and gradually increasing degree, recourse to the Department has been entirely optional. The question was examined by the Public Accounts Committee, when dealing with the Accounts of the year 1927-28, in August 1929, and they recorded the opinion that time had come for the Government to adopt a definite and decisive policy in relation to the Indian Stores Department. They further recorded that if the Government were satisfied that the Department was so organised that it was capable of purchasing stores with efficiency and economy, on a standard comparable to that attained by the Departments when purchasing on their own account, then they should issue orders that all stores (other than stores of a special technical nature) required by any Government department should in future be purchased through the Indian Stores Department. As a first step towards this recommendation, orders were issued that the purchase of all classes of stores, handled by the Indian Stores Department, which may be obtainable in India in conformity with the rules for the supply of articles for the public service, by the undermentioned Departments and officers, shall, in future, be entrusted invariably to the Department—

1. The Indian Posts and Telegraphs Department.
2. The Director, Geological Survey of India.
3. The Chief Inspector of Mines in India.
4. The Chief Inspector of Explosives with the Government of India.
5. The Controller of Printing and Stationery, India (except Printing and Stationery Stores).
6. The Controller of Patents and Designs.
7. The Director General of Observatories.
8. The Principal, Indian School of Mines.
9. The Director of Civil Aviation in India.

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10. The Public Works Department, Delhi Province (except special articles of furniture and fittings).	The Central Public Works Department.
11. The Superintending Engineer, Public Works Department, Simla.	

12. The Department of Industries and Labour, Secretariat.

As a result of these orders, coupled with the arrangements made with the Director General, Posts and Telegraphs Department, earlier in the year, orders to the extent of Rs. 38,68,000 or Rs. 28,65,000 in excess of the preceding year, were placed on behalf of the Posts and Telegraphs Department. There was no appreciable increase in the total demands from other Departments covered by the arrangement, but this was due mainly to a natural reduction in the demands from the Public Works Department, Delhi Province, the principal consuming Department concerned, as a result of the approaching completion of the New Capital Works. In spite of a reduction of Rs. 2,24,000 in the demands from that Department, however, the total value of orders placed by the Departments referred to (excluding the Posts and Telegraphs) exceeded the corresponding figure for the preceding year by Rs. 40,000. Apart from the effect of these orders on the figures of business entrusted by the Departments concerned to the Stores Department, they indicate an encouraging measure of confidence in the Department which will contribute materially towards its successful development. Utilisation to the fullest possible extent of the services of the Department is the only means of placing it on a sound footing, and it is very gratifying to note that the Government of India, after a careful examination of the results achieved by the Department during its eight years' working, have considered themselves to be justified in issuing orders to that effect to some of the Departments under their direct control. The question of issuing similar orders to other authorities under the direct control of the Government of India is under consideration.

3. *Rupee Tender System.*—In their resolution No. S-217, dated the 13th September 1928, of which mention was made in paragraph 13 of the Report for the year 1928-29, the Government of India announced their intention to replace the existing arrangements for the supply of articles for the public service by a system of rupee tenders for delivery in India. Draft rules which had been framed to give effect to that policy were published for criticism. The Rules, as finally approved, were published with the Department of Industries and Labour Resolution No. S-217, dated the 12th December 1929, and will take effect from the 1st January 1931. In the interval purchasing authorities have, however, been permitted to make purchases, in conformity with the new rules, whenever it is found convenient to do so.

The Revised Rules, which will regulate the purchase of stores (other than printing and stationery stores) by all Departments and officers of the Central Government and of the Provinces other than Governors' Provinces, have been framed with the object of giving effect to the policy of the Government of India of making purchases of stores for the public service in such a way as to encourage the development of the industries of the country to the utmost possible extent consistent with economy and efficiency. They accordingly

prescribe that preference in making purchases will be given in the following order :—

First, to articles which are produced in India in the form of raw materials or are manufactured in India from raw materials produced in India, provided that the quality is sufficiently good for the purpose ;

Secondly, to articles wholly or partially manufactured in India from imported materials, provided that the quality is sufficiently good for the purpose ;

Thirdly, to articles of foreign manufacture held in stock in India, provided that they are of suitable type and requisite quality ;

Fourthly, to articles manufactured abroad which need to be specially imported.

These rules are expected to widen materially the scope of operations of the Department.

4. *Activities of the Purchase Branch.*—The value of contracts entered into for the supply of stores during the year increased from Rs. 3,60,48,000 to Rs. 4,29,26,000, or by 19 per cent., in spite of the continued downward trend of market prices, and economies effected by the extension of measures of standardisation and bulking of demands, which have marked the operations of the Department (*vide* paragraph 18).

The fullest possible advantage was taken of the resources of India in meeting the demands placed on the Department and as a result a large quantity of business was placed with the Indian manufacturers (*vide* paragraphs 21, 22 and 59). The textile stores purchased by the Department were, as in the past, almost entirely of Indian origin and manufacture, or were manufactured in India from imported materials (*vide* paragraph 21). There was also a considerable increase in the value, and proportion, of engineering, hardware and miscellaneous stores, wholly or partly manufactured in India (*vide* paragraph 22).

5. *Indents on the India Store Department, London.*—There was a further marked reduction in the number and value of indents on the London Stores Department which were examined by the Department during the year (*vide* paragraph 61). On the other hand, items of larger value were challenged as compared with the figure for the preceding year.

6. *Activities of the Inspection Branch.*—As compared with the year 1928-29, an appreciably larger volume of work was dealt with by every section of the Inspection Branch, including the Metallurgical Inspectorate and the Government Test Houses (*vide* Appendix XI). The value and tonnage of stores inspected during the year increased from Rs. 5,42,33,106 and 2,18,764 tons to Rs. 7,47,99,137 and 3,43,109 tons. The number of tests and analyses carried out at the laboratories of the Metallurgical Inspectorate and the Government Test Houses at Calcutta and Bombay increased from 12,953 to 14,273. A substantial portion of this large increase in the turnover of the Branch is due to an unusually heavy accumulation of work in the preceding year, but, even allowing for the abnormal carry over from that year, the result of the working of the year under review was very satisfactory (*vide* paragraph 37).

7. *Utilisation of the services of the Indian Stores Department by authorities outside India.*—Enquiries were received during the year from the Principal Works and Buildings Officer, Air Ministry Works and Buildings Department, Royal Air Force, Aden, Resident Engineer, Royal Airship Base, Karachi, and the Prison Commission, London, regarding the facilities offered by the Indian Stores Department for the purchase of stores. The Government of India permitted the Department to undertake work on their behalf and orders aggregating Rs. 13,887 were placed for stores of different descriptions on behalf of the first two of these authorities.

The Crown Agents for the Colonies entrusted to the Department the inspection of certain tents and poles ordered from Cawnpore for the Palestine Government. The work was undertaken with the permission of the Government of India and the value of stores inspected during the year amounted to Rs. 20,740. Cast iron pipes and specials, of Indian manufacture, weighing approximately 1,000 tons, were also inspected during the year on behalf of the Singapore Municipality. One of the reasons which has been advanced in the past as militating against the consideration of tenders from Indian manufacturers for the supply of stores required by the British Crown Colonies has been the lack of suitable arrangements for the inspection and testing of the supplies before shipment. The facilities offered by the Indian Stores Department in this direction open the way to overcoming these difficulties. The Union of South Africa, to which the position was explained, through the Indian Trade Commissioner, London, has agreed to consider tenders from India for the supply of the Union Government requirements, accepting inspection in India as equivalent to inspection in London.

8. *Financial Position.*—The final accounts of the receipts and expenditure of the Department for the year 1929-30 are not at present available, but a provisional account has been prepared by the Audit Officer, Indian Stores Department, after taking into consideration the adjustments expected to be made in the supplementary accounts. The account, which, unlike those published in the previous reports, includes direct as well as indirect charges incurred by the Department, will be found in Chapter VIII. It will be observed that the improvement in the financial position of the Department, which was anticipated, has materialised and the working expenses, including all indirect charges, have been reduced from Rs. 1·8 per rupee earned, in the year 1928-29, to Rs. 1·38 in the year 1929-30.

CHAPTER II.

ORGANISATION.

9. *Changes in organisation.*—The experience of the past few years had indicated that there was but little actual work of inspection to be carried out in Delhi itself and a further reduction was anticipated in that direction owing to the approaching completion of the New Capital Works. The bulk of the work entrusted to the Cawnpore Inspection Circle, the headquarters of which were located at Delhi, was carried out at Cawnpore and Lahore. It was, therefore, decided to transfer the Inspection Office at Delhi to Lahore under the designation of 'Upper India Circle' and to constitute an independent Inspection Branch at Cawnpore, directly responsible to the Headquarters Office, for the inspection work in the United Provinces, more especially at Cawnpore and Aligarh, under the control of the Inspector of Stores already stationed at the former city.

These changes were brought into effect from the 9th October 1929, and, as will be observed from paragraph 41 in Chapter IV, the new arrangements have already proved to be of advantage.

Six additional gazetted and a few non-gazetted posts were sanctioned to cope with the expansion of the activities of the Department, but no addition was actually made to the gazetted staff during the year.

10. *Organisation of the Department at the end of the year.*—A conspectus of the organisation, as it stood at the end of the year, is provided in Appendix I, the appointments added during the year being shown in italics.

11. *Important changes in personnel.*—Mr. J. S. Pitkeathly, C.M.G., C.I.E., C.V.O., C.B.E., D.S.O., Chief Controller of Stores, whose services were lent to the Government of Ceylon at their request in June 1928, for a period of about nine months, proceeded on leave on the expiry of that period and resumed charge of the Department on the 5th February 1930. Mr. K. M. Kirkhope, C.I.E., V.D., Director of Inspection, continued to officiate as Chief Controller of Stores during the interval.

12. *Training of officers of the Department abroad.*—The study leave granted to Mr. A. G. Khan, Assistant Director of Inspection, of which mention was made in the Report for the year 1928-29, was converted into "Deputation", with a view to granting him further financial assistance in his tour of inspection to Great Britain and on the Continent of Europe. He returned to India in December 1929 after acquiring varied and most useful experience and was posted, on arrival, as Controller of Inspection, Calcutta Circle.

Dr. R. N. Chowdhury, an Inspector of Stores at the Metallurgical Inspectorate, was granted study allowance and travelling expenses for a tour of inspection in Great Britain and on the Continent of Europe, during a portion of his leave on average pay, to enable him to study the current practice and recent developments at different works specializing in the manufacture of steel in those countries.

Major F. Carlton Scott, Assistant Controller of Inspection, was granted facilities for visiting, during his leave, leading firms engaged on the manufac-

ture of steel structures, Rolling Stock, permanent-way materials, cast iron pipes and fittings and general engineering manufactures.

Mr. N. N. Sircar, a Chemical Assistant at the Government Test House, Alipore, was also provided with the necessary facilities for acquiring practical training in the United Kingdom in the manufacture of paints, oils and varnishes, while on leave in that country.

13. *Recruitment of the gazetted staff.*—Two officers of gazetted rank were appointed to the staff during the year. One of them was an Indian and the other was a non-Indian and had to be recruited through the High Commissioner for India, as suitably qualified candidates possessing the necessary technical qualifications were not available in India. An Indian subordinate was also promoted to gazetted rank during the year.

With a view to overcoming the difficulties experienced in the recruitment of suitable officers for the Inspection Branch of the Department, the Government of India decided to change the designation of Inspectors of Stores employed on engineering inspection to "Assistant Engineer (Inspection)", and to raise the age limit. They have also suggested to the Public Service Commission, through which body recruitment for all gazetted posts in the Department is made, that copies of advertisements inviting applications for such appointments may be forwarded to the heads of engineering institutions in India and to important engineering firms.

14. *Numbers of European and Indian officers in the Department.*—As at the close of the year 1928-29, the numbers of European and Indian officers in the Department holding gazetted appointments at the end of the year 1929-30 were 33 and 30 respectively. The proportion of Indians and non-Indians in the gazetted staff at various stages, since the constitution of the Department in 1922, is indicated in the graph in Appendix II.

15. *Recruitment of the subordinate technical staff.*—Nine technical subordinates (all Indians) were recruited during the year. This class is composed almost entirely of Indians.

CHAPTER III.

WORK OF THE PURCHASE BRANCH.

16. *Indents and Items.*—The numbers of indents and items dealt with during the year by the various sections in the Purchase Branch of the Department are shown in the table below:—

Organisation	No. of indents.		No. of items.	
	1928-29.	1929-30.	1928-29.	1929-30.
Headquarters	3,595	8,377	11,978	24,509
Calcutta	2,960	4,416	17,930	19,687
Bombay	2,148	2,051	7,912	8,024
Karachi	1,925	2,214	14,897	16,737
Total ..	10,628	17,058	52,717	68,957

As compared with the year 1928-29, there was an appreciable increase under both headings, *viz.*, of 61% under indents and of 31% under items. The increase under the former heading, does not, however, represent proportionate increase in the amount of business handled by the Department. It is to some extent the result of instructions having been issued to the indenting authorities to prepare separate indents for different categories of stores. The object of these instructions was to facilitate the expeditious disposal of work in the Purchase Sections.

17. *Clientele of the Department.*—Appendix III indicates the names of the Departments and other authorities which utilised the services of the Indian Stores Department for the purchase (and in most cases also inspection) of their requirements of stores during the year under review and three preceding years. Thirty-eight new authorities entrusted their purchases to the Department for the first time since its constitution. The value of orders placed on behalf of the new Departments added to the list during the year amounted to Rs. 4,54,550. A list of these Departments is given below:—

ARMY DEPARTMENT.

1. Military Accountant General.

CIVIL DEPARTMENTS OF THE CENTRAL GOVERNMENT.

2. Civil Aviation Department.
3. Director of Malaria Survey, Karnal.
4. Education Department, Ajmer-Merwara & Delhi.

5. Medical Department, Delhi.
6. Police Department, Andamans and Nicobars.
7. Engineer and Harbour Master, Port Blair.
8. Public Works Department, Rajputana.
9. Government Cattle Farm, Hissar.
10. Cotton Research Botanist.
11. Political Officer, Chagai.
12. Political Agent, Sibi.
13. Political Agent, Sambalpur.
14. Government Cattle Breeding Farm, Karnal.
15. Police Department, Aden.

PROVINCIAL GOVERNMENTS.

16. Bombay, Education Department.
17. Bengal, Printing Department.
18. United Provinces, Police Department.
19. United Provinces, Veterinary Department.
20. Punjab, Secretariat offices.
21. Burma, Salt Revenue Department.
22. Burma, Medical Department.
23. Central Provinces, Co-operative Department.
24. Assam, Industries Department.
25. Assam, Secretariat offices.

INDIAN STATES.

26. Jamkhandi.

QUASI-PUBLIC BODIES.

27. Municipal Committee, Kurnool.
28. Municipal Committee, Trichinopoly.
29. Municipal Committee, Mount Abu.
30. District Council, Bhandara.
31. District Council, Yeotmal.
32. District Council, Balaghat.
33. District Council, Raipur.
34. District Council, Amraoti.
35. Sind Flood Relief Committee.

BRITISH GOVERNMENT.

36. Royal Airship Base, Karachi.
37. Air Ministry Works, Aden.

INDIAN RAILWAYS.

38. Central Publicity Bureau.

18. *Value of contracts placed.*—It will be observed from Appendices III and VI that the value of the contracts placed increased from Rs. 3,60,48,074 in 1928-29 to Rs. 4,29,25,701 during the year under review, showing an increase of 19% over the preceding year and of 8% over the highest record previously

attained, in the year 1926-27. This result assumes greater importance when it is remembered that a further marked downward trend in prices was continued in almost all classes of stores. Moreover, appreciable savings were effected by the bulking of demands and the standardisation of qualities, thus securing in a number of cases specially favourable rates. In this connection special mention may be made of bulk contracts made for cotton waste, lubricating oils, soaps, paints and varnishes, etc. A saving of about Rs. 58,000 was effected by the bulking and standardisation of the requirements of cotton waste alone for State Railways in India for the year 1930-31.

The increase in the value of purchases made was contributed to principally by the following indenting authorities :—

Civil Departments of the Central Government ..	29,77,000=77%
Railway Administrations	46,41,000=45%
Indian States	13,52,000=653%
Quasi-Public Bodies	17,000=12%

There was, on the other hand, a dimunition in the demands from the Army Department (by Rs. 13,83,000) and from the Provincial Governments (by Rs. 7,40,000). The fall in the value of purchases on behalf of the Army Department was due to a large reduction in the Army requirements of textile stores. The decrease under the head "Provincial Governments" was due to a reduction in the value of contracts placed on behalf of the Lloyd Barrage and Canals Construction Scheme.

19. *Purchase of stores for Railway Administrations and the Posts and Telegraphs Department.*—Mention was made in paragraph 15 of the Report for the year 1928-29 of the arrangement arrived at with the Railway Board in August 1928 under which the purchase on behalf of State Railways, of several descriptions of stores which are usually obtained on annual contracts, was entrusted to the Indian Stores Department. The arrangement was in force for the first time, for a whole financial year, during the year 1929-30. The value of stores ordered on behalf of State Railways increased during the year by Rs. 40,03,555 or 41%, that is, from Rs. 98,02,309 to Rs. 1,38,05,864.

The Company-worked Railways, which were also invited to participate in the arrangement, entrusted to the Department during the year additional business amounting to Rs. 6,27,727, or 105% over and above the purchases effected on their behalf during the preceding year. The total value of orders placed during the year on behalf of Railway Administrations in India amounted to Rs. 1,50,46,000, as against Rs. 1,04,05,000, during the year 1928-29 and Rs. 76,11,000, during the year (1927-28) preceding the arrangement concluded with the Railway Board in August 1928.

The list of stores transferred to the Indian Stores Department under this arrangement was re-examined by the Railway Board, in consultation with the Department, and several additions were made to it during the year. The question of making further additions to the list in the light of experience acquired is under consideration, and it is hoped that the value of purchases on behalf of Indian Railway Administrations will very materially increase.

An arrangement was also arrived at during the year with the Indian Posts and Telegraphs Department by which that department agreed to entrust the purchase of a larger volume of stores to the Department. As a result the value of orders placed on behalf of the Posts and Telegraphs Department increased from Rs. 10,03,767 to Rs. 38,68,485.

20. *Purchase of stores for the Major Local Governments.*—The total value of stores purchased on behalf of the major Local Governments amounted to Rs. 74,42,092, as against Rs. 81,82,590 during the year 1928-29. The demands from the Governments of Madras, Punjab, Bihar and Orissa, Burma and Assam increased by a total sum of Rs. 14,66,500, but those from the Governments of Bombay, Bengal, United Provinces and Central Provinces fell short of the previous year's total by Rs. 22,36,527. The decrease in the value of demands from the Government of Bombay was caused by the natural contraction in the requirements of the Lloyd Barrage and Canals Construction Scheme in respect of plant and machinery, which as compared with the preceding year fell short by a figure amounting to over Rs. 13 Lakhs. While there was a fall in the demands for machinery and plant, the value of indents for textile, hardware and miscellaneous stores for that scheme increased by about Rs. 81,000, and that of indents for all classes of stores from other Departments of the Government of Bombay increased by about Rs. 17,000. The reduction in the value of indents received from the Government of Bengal was due to the inclusion in the figures for the year 1928-29 of large orders for excavating and other machinery for the Damodar Canal Construction Project, amounting to Rs. 4,28,185. Similarly the returns for 1928-29 included Rs. 5,59,671, for the plant purchased for the Sumera Hydro-Electric Scheme, in the United Provinces. The reduction of Rs. 14,650 in the demands from the Government of the Central Provinces was also due to a fall in the requirements of the Public Works Department in that Province in respect of plant and machinery.

It will thus be appreciated that there was on the whole a substantial increase in the demands from the Local Governments for consumable stores which are in recurring demand. The number of Departments under those Governments which utilised the services of the Department for the purchase of their requirements increased from 69 in 1928-29 to 82 in the year under review.

21. *Purchase of textile stores.*—The aggregate value of the contracts entered into during the year for the purchase of textile stores amounted to Rs. 1,13,36,292 as against Rs. 1,16,24,973 during 1928-29. The demands received from the Army Department decreased by Rs. 24,82,495 that is from Rs. 69,74,505 in 1928-29 to Rs. 44,92,010, in the year under review. There was, however, a substantial increase, amounting to Rs. 20,71,924, in the value of textiles purchased for various Railway Administrations, which rose from Rs. 20,45,101 to Rs. 41,17,025. The demands from the Provincial Governments increased in value by Rs. 3,21,306, notably those from the Lloyd Barrage and Canals Construction Scheme (Rs. 39,725), the Police Department (Rs. 58,193) and the Jail Department (Rs. 40,045) in the Bombay Presidency, the Punjab Jails (Rs. 97,478) and the Police Departments in Burma (Rs. 50,828) and Assam (Rs. 27,096). On the other hand, a fall of Rs. 2,04,451

occurred in the total demands from the Civil Departments of the Central Government, though improvement was noticed in the demands from certain Departments under that section, *e.g.*, the Public Works Department, Delhi Province (Rs. 1,84,336) and the Survey of India Department (Rs. 52,813). The fall is attributed to a change in the system of purchases made on behalf of the Indian Medical Service. Formerly contracts for definite quantities were placed on behalf of that Department and the full value thereof was taken into account in the year in which orders were placed. Running contracts were, however, arranged for its chief requirements during the year under review and only the value of requisitions actually placed against such contracts has been taken into account. The effect of this arrangement was an apparent reduction of about Rs. 3,00,000 which more than accounts for the total net reduction of Rs. 2,88,681, in the value of textile purchases during the year.

In spite of this reduction, there was a substantial increase in quantities in the case of most of the materials handled by the Department, but these increases in quantities were more than counterbalanced by the considerable decline in selling prices. Although the demands received from the Army Department were smaller than those of the preceding year, the total yardage of cloth purchased by the Textile Branch in the Headquarters office alone increased from 1,584,000 in 1928-29 to 2,619,000 in 1929-30, yarn and cotton wool from 956,000 lbs. to 1,232,000 lbs., cordages, etc., from 292,000 fathoms to 460,000 fathoms, putties and socks from 573,000 pairs to 648,000 pairs, and cotton waste from 26,000 cwts. to 51,000 cwts.

Appendix IV shows a comparison of the values and proportions of indigenous and imported textile stores purchased during the year under review and the three preceding years. As in the past, factories producing goods of Indian origin and manufacture continued to receive encouragement, with the result that 95·7% of the total value of textile stores purchased during the year was either produced entirely in India from Indian material or was manufactured in India from impo ted material. This proportion was lower than that obtained in the year 1928-29 (*i.e.*, 97·2%). This slight reduction was caused by the very intensive competition shown by woollen manufacturers abroad, which was due to the pressure of acute industrial depression. The percentages of indigenous materials in the case of cotton, jute, hemp and leather products show an improvement over the results of the preceding year.

22. *Purchase of Engineering and Miscellaneous stores.*—The working of the year under review shows an increase of Rs. 71,66,308 or 29 per cent. in the value of contracts for engineering, hardware and miscellaneous stores, as compared with the preceding year, and an increase of Rs. 61,66,746, or 24 per cent., as compared with the previous highest record, which was achieved in the year 1927-28.

The first place, in order of magnitude, in respect of orders for these classes of stores, was taken, as in the preceding year, by Railway Administrations (Rs. 1,09,29,404, or an increase of 31 per cent.). The purchases on behalf of the Posts and Telegraphs Department amounted to Rs. 31,45,387, as against Rs. 2,07,532 during 1928-29, and orders amounting to Rs. 3,15,721 were placed on behalf of the Civil Aviation Department. The other Departments of the Central Government which contributed to the increase were the Forest and

Marine Departments, Andamans (Rs. 3,12,582) and the Irrigation Department, Baluchistan (Rs. 1,83,995). The principal contracts placed for the Forest and Marine Departments, Andamans, were for sea-going craft, of which mention was made in paragraph 21 of the Report for the year 1928-29. A contract amounting in value to Rs. 1,55,839 (exclusive of engines) was placed with a firm established in India, for the steam lighter a photograph of which will be found on the opposite page. Contracts were also placed in India for a steel cargo barge, 120 feet long, for the Forest Department, at a cost of Rs. 45,573, and for three 80′ steel barges, for the Marine Department, at a cost of Rs. 66,000. There was a substantial increase in the demands received from the Army Department (Rs. 11,00,678), chiefly from the Military Engineer Services (Rs. 10,69,909), and from the Jaipur Durbar Rs. 12,54,397. The value of contracts placed on behalf of the Provincial Governments decreased by Rs. 10,61,804, but, as explained in paragraph 20, this is due to a reduction in the requirements of the Lloyd Barrage and Canals Scheme.

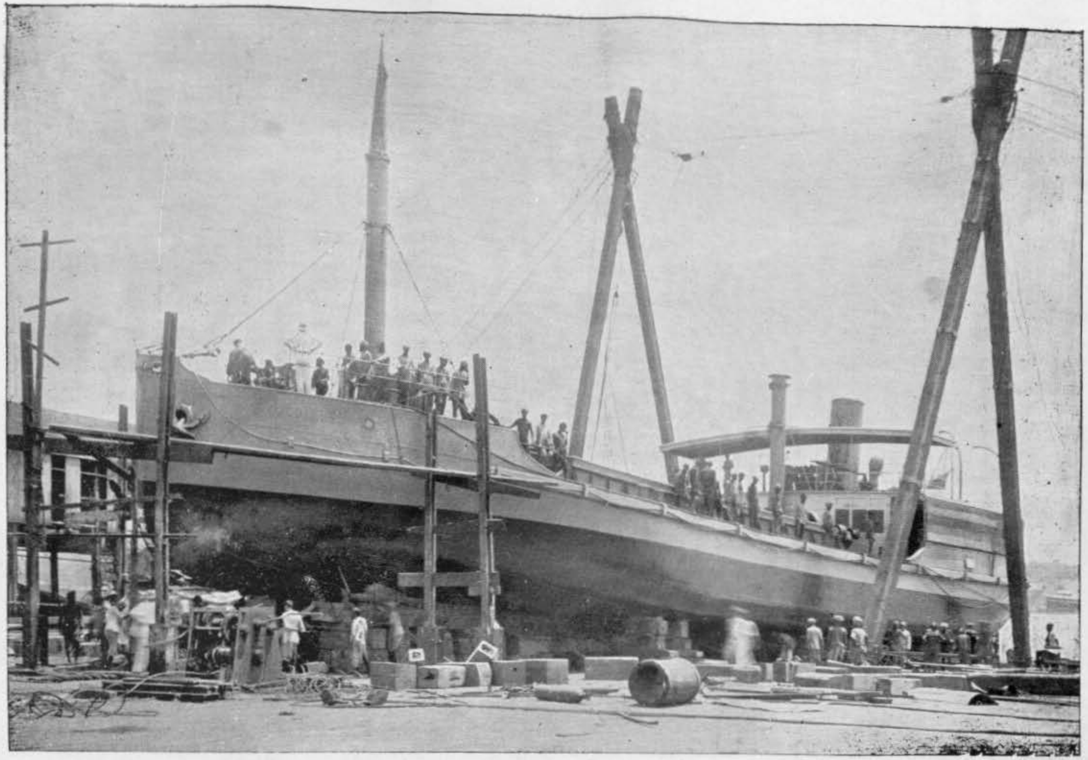
Although, unlike the Textile Branch, it is not possible to maintain an accurate record separately of indigenous and imported materials in respect of engineering and hardware stores, an indication of the results achieved in diverting business to the Indian market is afforded by the particulars of purchases furnished in paragraph 59. The total value of important items of engineering and miscellaneous stores wholly or partially produced or manufactured in India, for which contracts were placed during the year, amounted approximately to Rs. 1,14,19,000 or 36 per cent. of the total purchases of these classes of stores, as against Rs. 56,26,000 and 23 per cent. respectively in the preceding year.

23. *Distribution of purchases.*—The series of diagrams and statistics given in Appendix V show that the business of the Department continued to be as widely distributed as in the past years. Noticeable additions to the list are the purchases of cast iron pipes, of which mention is made in Chapter VII paragraph 57 and pig iron from the Mysore State, and carpets for the Viceroy's House, New Delhi, from the Kashmir State.

24. *Details of important purchases.*—The more important contracts placed during the year are specified below :—

TEXTILES.

	Amount.
	Rs.
1. Drill, khaki, coloured, white and grey	13,08,000
2. Cotton waste	12,36,000
3. Serges and flannel	10,31,000
4. Blankets, woollen	10,08,000
5. Tents and components	9,74,000
6. Yarns, woollen and cotton	7,05,000
7. Waistcoats, Jerseys, Cardigans and Jackets	5,47,000
8. Pugree cloth, muslin, nainsook, calico	5,38,000
9. Paulins, flax, jute, canvas	5,27,000
10. Socks, woollen and cotton	4,55,000
11. Ropes, manilla, cordages and twine	3,46,000



THE STEAM LIGHTER "DOUGLAS".

	Amount.
	Rs.
12. Jhools and rugs ..	3,44,000
13. Bags, postal, all sorts	2,13,000
14. Sheets, Hospital and barrack	1,76,000
15. Carpets	1,72,000
16. Overcoats, blanketting cloths and greatcoats	1,71,000
17. Flannelette, mark III	1,31,000
18. Hessians and gunnies	1,30,000
19. Durries, cotton ..	1,21,000
20. Dosuti ..	95,000
21. Putties, woollen and cotton	94,000
22. Bags, kit	93,000
23. Dhotie cloth and sheetings	86,000
24. Garments, uniform	72,000
25. Capes and coats, waterproof	57,000

ENGINEERING AND MISCELLANEOUS.

26. Steel sections and steel sheets	31,74,500
27. Oil, kerosene	27,61,100
28. Oils, lubricating ..	24,60,600
29. Cement	20,60,000
30. Pipes and specials, cast iron	18,32,000
31. Electric lamps, fans and fittings	15,69,900
32. Wire, copper, bare	12,19,000
33. Oil, fuel	10,04,300
34. Paints and dry pigments ..	8,00,000
35. Cables, electric ..	7,48,800
36. Pipes and fittings, Galvanised iron and mild steel	6,41,200
37. Asphalts and road tar	5,33,000
38. Oil, gas making ..	4,69,300
39. Wire, galvanised iron, plain and barbed	4,68,000
40. Sheets, corrugated and plain, galvanised	4,29,000
41. Pumping plant and equipment	4,05,000
42. Electric generating sets, steam and oil driven, and converting plant	4,01,000
43. Oil, linseed, raw and double boiled ..	3,66,700
44. Enamels and varnishes	3,63,000
45. Oil castor	3,61,000
46. Hangars, æroplane	3,41,000
47. Arch-centrings for bridges	3,34,000
48. Petrol ..	3,16,000
49. Tanks, pressed steel and staging	2,78,000
50. Steel lighters, sea-going	2,68,000
51. Motor vehicles, trucks and spare parts	2,46,500
52. Electrical distribution material	2,39,000
53. Sluice gates, canal	2,38,000
54. Pipes, Victualic ..	2,28,000
55 Asbestos cement sheets	2,24,000

	Amount.
	Rs.
56. Miscellaneous engineering plant and spare parts of machinery	2,20,500
57. Turpentine, genuine and substitute..	2,14,900
58. Workshop machinery and tools	1,96,400
59. Sheet piling	1,94,800
60. Pig iron	1,62,800
61. Suspension bridge	1,52,000
62. Steel doors and windows	1,39,000
63. Rod rollers, steam	1,19,000
64. Acids and chemicals	1,05,800
65. Insulators, porcelain	1,03,000
66. Road making tools	96,600
67. Wireless apparatus	95,000
68. Cranes, electric and hand	88,000
69. Timber for packing cases	82,800
70. Disinfecting fluid	77,000
71. Cooking ranges	73,600
72. Meters, water	69,000
73. Meters, electric	62,000
74. Soap, soft and hard	58,600
75. Elements for primary cells	58,000
76. Blasting gelatine and detonators	56,500
77. Railway material, permanent way	56,000
78. Air compressors	55,000
79. Metals, non-ferrous	54,000
80. Pipes and specials, earthenware	54,000
81. Coal tar for painting purposes	53,800
82. Screws, rivets, bolts and nuts	53,000
83. Steelwork for buildings	51,000
84. Greases	50,000

Provincial Purchase Circles.

25. *The Calcutta Purchase Circle.*—There was a general expansion of business during the year 1929-30 in this Circle.

The number of indenting authorities utilising the services of the Circle increased from 285 to 353, that is by 24 per cent. The number of indents received increased by 49 per cent. (from 2,960 to 4,416), items dealt with by 10 per cent. (from 17,930 to 19,687) and contracts placed by 32 per cent. (from 6,476 to 8,573).

The value of contracts placed during the year rose to Rs. 22,32,656, which was an improvement of over 25 per cent. as compared with the preceding year. This rise in value was especially remarkable when allowance is made for the general downward tendency in prices, particularly in the case of jute products which were purchased during the latter part of the year at rates very much below those which had prevailed in the market for a long period.

The increase in the business handled by this Circle during the year was chiefly contributed to by the Posts and Telegraphs Department, the value of orders placed on whose behalf rose by Rs. 4,26,000, that is from Rs. 55,000 to Rs. 4,81,000. An increase of Rs. 1,15,000 (47 per cent.) has also to be recorded in the value of contracts placed on behalf of State and Company-worked Railways. The purchases on behalf of the Army Department on the other hand fell off by Rs. 1,56,000 (18 per cent.).

Besides the actual purchase work, the services of the Circle were utilised for investigating the capacity of 108 firms who applied for registration. As a result, seventy-four firms were accepted and thirty-four applications were rejected.

26. *Bombay Purchase Circle.*—The number of indentors who availed themselves of the services of this Circle increased during the year under review from 132 to 180 (36 per cent.), and the number of contracts placed rose from 3,518 to 3,905 (11 per cent.). There was a small decline in the number of indents received, which fell from 2,148 to 2,051 (5 per cent.), but this does not indicate any diminution in the number of demands, as the items contained in the indents increased from 7,912 to 8,024.

The value of orders placed during the year amounted to Rs. 9,89,423 only, against Rs. 11,14,704 in the preceding year, showing a reduction of about 11 per cent. This contraction is due partly to the unrest and dislocation in the Textile industry and partly to the general fall in prices. A further cause was the extension in the number and scope of the Rate and Running Contracts which enables indentors to order direct from suppliers against annual contracts.

Twenty-six firms were inspected by this circle during the year, of which sixteen were registered, nine applications were rejected, and one case was under consideration at the end of the year.

27. *Karachi Purchase Agency.*—The record of this Agency has been one of continuous progress since its constitution in 1925-26, and the results of the working of the year under review have dispelled the apprehensions which were entertained about its future having regard to the natural reduction in demands for construction plant and materials as the Lloyd Barrage and Canals Construction Scheme progresses towards completion. There was a small reduction in the value of orders placed on behalf of that Scheme, but it was more than counterbalanced by increases in the purchases made on behalf of other authorities, in particular the Military Engineer Services (of Rs. 3,22,175 or 53 per cent. above 1928-29) and the Punjab Public Works Department (of Rs. 2,36,025 or 95 per cent. above 1928-29) and by fresh additions to the list of indenting authorities making use of the Agency. The number of such authorities rose during the year from 95 to 109, showing an increase of 15 per cent. The number of indents received, items dealt with and orders placed during the year rose from 1925, 14,897, and 5,895 to 2,214, 16,737 and 6,434, showing increases of 15 per cent., 12 per cent. and 9 per cent., respectively. The value of orders placed amounted to Rs. 20,19,892, against Rs. 15,22,908 in the year 1928-29, *i.e.*, an increase of 33 per cent.

The value of the services, which the Provincial purchase agencies of the Department at sea-ports can render, was fully demonstrated during the year by the Karachi Agency at a time when it was necessary to obtain most urgently large quantities of materials to deal with an unforeseen and unavoidable failure of an important engineering work in the Punjab. The supply of large quantities of mild steel required in this connection was arranged by the Agency, at competitive prices, for immediate despatch from local stocks, on receipt of telegraphic indents.

Seven firms were inspected by this agency during the year, of which five were registered and two applications were rejected.

28. *Running and Rate contracts.*—Running and rate contracts for 199 items were entered into by the headquarters office, 150 of which, together with 51 carried over from the previous year, were in operation during the year under review and 49 will come into operation during the year 1930-31.

In addition to operating against the contracts entered into by the Headquarters office, the Calcutta Purchase Circle and the Karachi Agency respectively entered into similar contracts for 42 and 26 articles, which were specially in demand in those Circles. A beginning was also made by the Bombay Purchase Circle and 9 rate and running contracts were arranged by that Circle during the year.

Particulars of all these contracts are given in Appendix VII.

These contracts secure to the using Departments the advantages of ready stocks, at economical rates, and to the supplying firms a regular flow of business. To the Indian Stores Department they present the most convenient method of arranging supplies of articles regularly in demand in an expeditious and economical manner. Advantage is now freely taken of these contracts by numerous indenting authorities who place requisitions against them either direct on the contractors or through the Department.

29. *Comparison with the London Store Department.*—Appendix VIII furnishes a comparison of the numbers of contracts for stores and freight placed by the India Store Department, London, and the expenditure incurred thereon, with the numbers and values of the contracts entered into by the Indian Stores Department, during the three years 1926-27 to 1928-29. In Appendix IX a comparison has been made between the values of contracts placed by the two organizations during the same period. The figures relating to the London Stores Department have been converted into Indian currency at the rate of 1*s.* 6*d.* to the rupee.

The figures of the London Stores Department for 1929-30 are not yet available.

CHAPTER IV.

WORK OF THE INSPECTION BRANCH.

30. *Administrative Inspection Branch at Headquarters.*—There was a substantial increase in the volume of work handled by the Inspection Branch at Headquarters, as a result of the development of the operations of the Purchase Branch, particularly those relating to the purchase of engineering stores, with which the Inspection Branch is closely connected. Besides supervising the work of the Provincial Inspection Circles, the Government Test Houses and the Metallurgical Inspectorate, giving technical advice on indents referred to it by the Purchase Branch, preparing schedules of requirements and specifications, and scrutinising engineering schemes in connection therewith, the Inspection Branch is continually empolyed in exploring all possible means of developing Indian industries.

31. *Arrangements for inspection of materials in the country of origin.*—In order to assist manufacturing concerns in India to compete satisfactorily for orders for the execution of which imported materials are necessary, arrangements have been in force for some years under which such materials are inspected in the country of origin through the agency of the Director General, India Store Department, London, thus eliminating the risk of their rejection on arrival in India and consequent loss and delay. An important feature of this arrangement is that the importation of materials from abroad is effectively controlled and steps are taken to ensure that as large a proportion as possible of such materials is manufactured in the country. Advantage is freely being taken of these arrangements by the Purchase Branch of the Indian Stores Department, as well as by other purchasing authorities, chiefly the Railway Administrations. In the year under review stores exceeding Rs. one crore in value were inspected by the Director General, India Store Department, London, under this scheme, against requisitions which passed through the Department. There is no doubt that, but for these facilities, a considerable proportion of the orders against which these materials were inspected would have been placed abroad.

During the year a further advance was made which, it is hoped, will prove to be of material assistance to the various authorities which use imported materials as well as to the commercial community in India. The terms of purchase of certain classes of imported Railway materials provide, that the materials shall be inspected in the country of origin by an Inspector appointed by the Government, and that proof of such inspection shall be produced. With a view to affording assistance to firms established in India which deal with such materials, the following system has been introduced, in consultation with the Railway Department.

A firm wishing to import Railway materials for sale to Railways in India addresses the Indian Stores Department, in a prescribed form in which full particulars of the material to be imported are specified. On receipt of this application, arrangements are made by the Department for inspection in the country of origin, through the Director General, India Store Department London. If the stores comply with the prescribed specifications and are regarded as suitable, a certificate is issued by the Director General to the London

Agents of the firm, and a copy is forwarded to the Inspectorate of the Indian Stores Department at the port of landing. When the sale of the certified materials takes place, application for the release of the material is made to the officer in charge of the Inspection Agency, who issues a despatch memo., after satisfying himself that the material is actually covered by the certificate referred to by the firm. An account of the material issued under this procedure is kept by the Indian Stores Department and steps are taken to ensure that only certified material is issued. This procedure has at present been introduced in Calcutta, Bombay and Karachi, but, if there is a demand from local firms, arrangements will be made to extend it to Madras.

A charge of 2 per cent. on the price of stores, free on board at the European port of despatch, in the case of work executed on the Continent, and 1½ per cent. in the case of work executed in Great Britain, has been fixed for the present for the services of the London Stores Department. No charge is made for the services rendered by the Indian Stores Department. No undertaking is given to importing firms that the materials so certified will necessarily be purchased. The arrangement was introduced from June 1929, and requisitions for the inspection of about 400 tons of iron and steel, 11,450 boiler tubes, 16 axles, and cast steel bearings for 82 bridge girders of different dimensions were forwarded to the Director General, India Store Department, London, during the year.

32. *Specifications.*—During the year 95 new specifications were framed and 61 specifications were revised. Particular mention may be made of the specifications for :—

1. Steel rising main 89,000 r. ft. specials, sluice valves, air valves, etc., from Ramgarh to Jaipur, for the Jaipur Water Supply Scheme.
2. Distribution piping, specials, valves and accessories for the Jaipur Water Supply Scheme.
3. Piping, specials, valves and accessories for water supply for the Public Works Department, New Delhi.

A list of the specifications which were current at the end of the year 1929-30 will be found in Appendix X.

33. *Schedules of Requirements.*—One hundred and fifty-two Schedules of Requirements were framed during the year and thirteen Schedules were revised. Some of the more important of these Schedules are detailed below. A complete list will be found in Appendix X-A :—

1. Aeroplane hangars at Calcutta, Delhi and Karachi for the Director, Civil Aviation.
2. Oil engine pumping plant for the Waterlogging Investigation Circle, Public Works Department, Lahore, Punjab.
3. Live roller gate for the under-sluice of the Midnapore Weir, across the river Cossye.
4. Hot water boilers and hot water storage tanks for the Public Works Department, New Delhi.
5. Sluice gates for the tail regulator of the Manchar Drain, Lloyd Barrage and Canals Scheme.

6. Bucket elevators for the Executive Engineer, Stores and Test Division, Cauvery Metur Dam Scheme, Madras.
7. Grooved victaulic jointed piping and victaulic joints for Military Engineer Services, Reserve Engineer Stores, Lahore.
8. Two pressed steel water tanks, 100,000 and 50,000 gallons capacity with stagings, housings, etc., for Military Engineer Services, Lahore.
9. One portable oil engine driven pumping set for testing tube wells, etc., for the Irrigation Department, Baluchistan.
10. Locomotive wheel tyres and carriage and wagon axles, 5′—6″ gauge, for the South Indian Railway Company, Limited, Madras.
11. Electric generating sets, etc., for the Military Engineer Services, Haripur.
12. Suspension bridge at Dawki, for the Public Works Department, Assam.
13. Two medium lift vertical shaft and two high lift horizontal shaft centrifugal pumps, together with A. C. induction type motors, switchgear, transformer, cable work, pipes, valves, etc., for the Ramgarh Pumping Station of the Jaipur Water Works Scheme.
14. Plant and equipment for the electrification of Ferozepore Arsenal.
15. Switchgear, transformers, etc., for Jaipur.
16. One 500 kilowatt 3,300 volts oil engine alternator set for the Public Works Department, Jaipur.

34. *Technical scrutiny of engineering schemes.*—Eighteen engineering schemes framed by various departments were examined during the year, resulting in orders to the aggregate value of Rs. 23,12,100.

35. *Erection at site orders.*—Fifty-eight orders of this class were dealt with during the year to the value of Rs. 18,05,800.

36. *Publications issued.*—A pamphlet on the failures of railway materials, dealing chiefly with ferrous metals, was compiled from official records, by the staff of the Metallurgical Inspectorate, and published by the Department.

37. *Work done by the Provincial Inspection Circles.*—The year under review shows a general increase in the value and weight of stores which passed through the Provincial Inspectorates. The amount of stores inspected and charged on value rose from Rs. 5,30,21,796 to Rs. 7,34,37,369, or an increase of 39%, and the tonnage of stores charged on weight from 42,515 to 48,828, or an increase of 15%. The increase is shared in varying degrees by all the organisations and the results of the year under review exceed the previous records of almost all Inspectorates. The largest increase was shown by the Calcutta Inspection Circle. This was, however, due to a large extent to the unfavourable results of the preceding year, which were adversely affected by the labour troubles in the engineering industry in Bengal and Bihar and Orissa. If the effect of these troubles is eliminated and a comparison is made with the working of the year 1927-28, the increase during the year 1929-30 amounted to Rs. 1,71,58,577, or 30%, of which a sum of Rs. 90,77,960 (27%) was contributed by the Calcutta I spection Circle, the increases in the other organizations varying from 18% in Bombay to 60% in Karachi.

A new class of work undertaken during the year was the supervision of orders which included masonry work. Indents for the erection of aeroplane hangars at Dum Dum, New Delhi and Karachi, were received from the Civil Aviation Department, which desired that the steel and masonry work should be carried out under the supervision of the Department. An indent for a similar hangar at New Cantonment, Delhi, was also received from the Royal Air Force Headquarters. Contracts for complete hangars were entered into and the work was completed during the year. A photograph of the hangar erected at New Delhi appears as frontispiece.

38. *Calcutta Inspection Circle.*—The number of orders received for inspection in this Circle during the year rose from 11,859 to 12,222 (*i.e.* by 3%). The value of stores inspected rose from 2,71,43,731 to 4,33,15,920 (*i.e.* by 60%) and the tonnage of material charged on weight from 39,714 to 44,148 (*i.e.* by 11%). The increase of Rs. 1,61,72,189 in the value of stores inspected is mainly due to the clearance of the accumulations caused by the labour troubles of the preceding year, but, even after making up the deficit of Rs. 70,94,229 recorded during that year, there was a net increase of Rs. 19,83,731 over the highest previous record, namely that of the year 1927-28, the actual increase over the figures for that year being Rs. 90,77,960. The value of orders received for inspection during the year (Rs. 3,17,06,406) was lower by about Rs. 1,44,00,000 than the corresponding figure for 1928-29, which included some large orders received during that year but actually executed during the year under review. This year's figure, however, exceeded that of 1927-28 by over Rs. 93,00,000.

The Railway Administrations continued to utilize to the greatest extent the services of this Inspection Circle, and the work inspected on their behalf (Rs. 3,18,25,779 and tons 39,725) amounted to 73% of the total stores charged on value and 90% of those charged on weight. The next place was taken, as in the past, by the work connected with the contracts placed by the Indian Stores Department itself, which amounted to Rs. 1,11,68,984, or 32% above the corresponding figure for the year 1928-29 (Rs. 84,52,683) and 26% of the total value of the work handled by the Circle. The orders from Provincial Governments show a marked increase and take the third place in order of magnitude. There was also a noticeable increase, as compared with the preceding year, in the work from public bodies, but there was a falling off of work from private concerns and Indian States. The total value of orders placed by authorities which make their own purchases direct amounted to Rs. 3,21,46,936 showing an increase of 72% over the corresponding figure for the preceding year (Rs. 1,86,91,048).

The following are a few of the more important orders received in the Circle for inspection during the year, besides the orders for Railway wagons, under frames and cast iron sleepers, which constitute an important portion of the work done in this Circle :—

	Rs.
(1) The steelwork for the Karnafuli Bridge—Assam Bengal Railway	8,66,000
(2) Cast iron pipes and specials for the Indore Waterworks	4,10,000
(3) Stoneware pipes for the Madras Corporation ..	2,10,000
(4) Aeroplane hangar at Dum Dum for the Director of Civil Aviation	1,02,366
(5) 13,00,000 dogspikes for North-Western Railway ..	90,000



ONE OF THE SPANS FOR THE BALLY BRIDGE ERECTED AT THE MANUFACTURERS' WORKS.

Considerable progress was made during the year on the steel work for the Bally Bridge of which mention was made in paragraphs 37 and 58 of the Report for the year 1928-29. A photograph of one of the spans erected in the manufacturers' works faces this page.

39. *Bombay Inspection Circle.*—The progress of work in this Circle was fully maintained. The number of orders received for inspection increased from 6,471 to 6,846, and their value increased from Rs. 1,18,13,218 to Rs. 1,23,48,693 (by 5%). The amount of work inspected increased by 8%, from Rs. 1,22,03,581 to Rs. 1,32,14,762, (including the approximate value of stores charged on weight).

The major portion of the work in this Circle relates to the inspection of orders placed by the Department itself. The value of stores inspected against such orders amounted to Rs. 78,85,779, as compared with Rs. 55,88,025 in the preceding year, and represented 60% of the total work inspected during the year. The work inspected against orders placed by other authorities declined from Rs. 65,72,441 and 591 tons to Rs. 53,10,244 and 80 tons. The reduction is due to decreased demands from State and Company-worked Railways.

Bridge and other structural steel work forms an important part of the work of this Circle. Three large orders of this class were handled during the year under review, *viz.*, steel work for :—

(1) The Nerbudda Bridge, Great Indian Peninsula Railway, consisting of 18 spans of 150 feet such	Rs. 7,59,102
(2) The New Central Station for the Bombay, Baroda and Central India Railway, a photograph of a section of which faces page 22	Rs. 5,28,210
(3) Building for Iron Foundry, Dohad, Bombay, Baroda and Central India Railway	Rs. 2,22,300

An interesting order inspected during the year was for three motor ambuances for the "Indian State Air Service". The chassis were built in India from imported stock parts and the complete body work, which was of a high standard, was executed by local labour.

The inspection of Railway crossings and switches was another important item of the work of the Circle. There has been a marked improvement in this class of work since its inspection has been entrusted to the Indian Stores Department, and it can now be claimed that imported crossings and switches are very little, if any, better than the local product.

Four "erection at site" orders for electric generating plants were dealt with in the Circle during the year.

The conditions during the year of the local textile industry were very unsatisfactory owing to labour unrest and a general depression in the trade. An appreciable reduction was noticed in this class of work, following the reduction in the value of textile orders placed in Bombay by the Department, and more especially in the orders placed by the Bombay Purchase Circle.

40. *Government Test House, Bombay.*—The Test House continued to be attached to the Bombay Inspection Circle. The number of tests undertaken during the year increased from 517 to 553, of which 375 related to the Physical section and 178 to the Chemical section.

This organisation, at its present stage of development, is mainly used for departmental work and very little work is done for other authorities. During the year special attention was paid to the fading effects of direct sunlight on dyed fabrics as measured by the Lovibond tintometer. It has been observed that samples dyed with the same dye by the same firm on different occasions have frequently shown different behaviour towards the fastness tests. The data collected in this connection will be valuable in fixing the standards of fastness or inclusion in specifications.

The following apparatus was added to the equipment of the Test House :—

1. Electrical muffle furnace.
2. Westphal balance.
3. Viscometer, Redwood's ordinary pattern.
4. Pensky-Martens closed flash point apparatus.
5. Abel-Pensky point apparatus (low flash).
6. Conradson carbon residue apparatus.
7. Cloud and pour test apparatus.
8. Standard distillation apparatus.
9. Holde Ubbelohde distillation apparatus.
10. Apparatus for estimation of total sulphur in petrol, as adopted by I. P. T.
11. Lamp for kerosene burning test.
12. Standard glasses (for kerosene) for Lovibonds tintometer.
13. Dean and Stark's apparatus for determination of water in fuel oils.
14. A set of Hydrometers.

A list of the articles of various descriptions tested during the year is given in Appendix XV.

41. *Cawnpore Inspection Circle—Upper India Circle and Cawnpore Inspection Branch.*—As explained in Chapter II, paragraph 9, the headquarters of the Cawnpore Inspection Circle were transferred from Delhi to Lahore, under the designation of the "Upper India Circle", with effect from the 9th October 1929, and the Cawnpore Inspectorate was constituted as an independent Inspection Branch, under the direct control of Headquarters from that date. The new arrangement affected beneficially the work of both branches.

The Upper India Circle deals with all inspection work in the Punjab, North-West Frontier Province and Delhi, and with orders for electric generating sets and other important plant and machinery in the United Provinces. The Cawnpore Branch is entrusted with the inspection of textile, hardware and miscellaneous stores at Cawnpore, Aligarh and other places in the United Provinces. Inspections in Lahore itself have increased, and there appear to be propects of industrial development in the Punjab generally. The Inspection Circle at Lahore is also favourably situated for maintaining a close liaison with



A SECTION OF THE BOMBAY: BARODA & CENTRAL INDIA RAILWAY CENTRAL STATION, BOMBAY.

See para. 39.

the authorities of the North-Western Railway, the Punjab Government (more particularly the Irrigation and Hydro-Electric Branches of the Public Works Department), and the Military Engineer Services, for which important work is done by the Department. Various Departments, in particular the North-Western Railway and the R. E. Park, Lahore, have already stated that they have found the location of an inspection circle at Lahore of great assistance to them and have expressed the desire that firms should be encouraged to hold stocks in Lahore. Much has already been done in this direction; for example, the supply of steel sections in the Punjab, and North-West Frontier Province has been considerably expedited by arrangements for supply from the Lahore stockyard of the local agents of the Tata Iron and Steel Co. The Circle has also rendered considerable assistance to the Headquarters office and the Provincial organisations of the Department in conducting investigations on their behalf and has effected, during the short period since its establishment at Lahore, satisfactory and early settlement of a number of cases which would otherwise have entailed lengthy correspondence.

The constitution of the Cawnpore Inspectorate as a separate Inspection Branch has also resulted in expeditious disposal of the work passing through that organisation, and there has been marked improvement in the turn-over of both the organisations.

The number of orders received for inspection in these organisations increased from 1,843 to 2,514 (by 36%). The value of stores inspected also increased from 57,90,331 to 71,14,958 (by 23%).

The Upper India Circle deals with a large number of "erection at site" orders. The number of such orders inspected during the year was 96 as against 50 in the previous year. Among the most important were :—

1. Sumera Hydro Electric Scheme, comprising Low Head Turbines on the canal fall, stand-by oil engine, transmission lines, and pumping station at Kali Nadi.
2. Electrical Cooking Apparatus at the Viceroy's House, New Delhi.
3. Steel work roofing for Ordnance Depot, Cawnpore.
4. Electric generating sets at Mardan, Kamptee, Khyber and Sialkote.
5. Pumping sets at Ranikhet, Thal and Kasauli.
6. Pumping set for fountains at the Viceroy's House, New Delhi.
7. Steam raising plant for the Public Works Department, New Delhi, forming part of a scheme for a considerable increase in the capacity of the Delhi Power Station.
8. Ice making plant for M. E. S., Landikotal.
9. Copper sheathing of the dome of the Viceroy's House, New Delhi.
10. Hangars at New Delhi (see Frontispiece) and New Delhi Cantonment.

The Cawnpore Branch is mainly engaged in the inspection of textile stores. The more important orders dealt with during the year were :—

1. Cotton waste supplied to Railway, Military and Public Works Departments.
2. Uniforms for the staff of the East Indian Railway.
3. Tents for the Survey of India and other Civil Departments.

4. Tents ordered by the Crown agents for the colonies on behalf of the Palestine Government.
5. Cotton yarns for Jails.

42. *Karachi Inspection Agency.*—There was a substantial increase in the value of stores inspected during the year, both against the orders placed by the Indian Stores Department and those placed direct by other purchasing authorities. The value of the work falling under the former category increased by 26%, from Rs. 44,75,338 to Rs. 56,35,886, and that under the latter category by 20%, from Rs. 28,18,340 to Rs. 33,70,516, showing a total increase of Rs. 17,12,724 (or 23%) over the preceding year. In addition to this, stores weighing 4,600 tons, and amounting approximately to Rs. 9,20,000 in value, were inspected during the year and charged on weight, as against 2,210 tons during the preceding year. The work done on orders placed direct by other purchasing authorities was confined entirely, as during the preceding year, to the orders placed by Railway Administrations, principally the North Western Railway. There was a fall in the number of orders received during the year, from 9,820 to 7,925 and of orders dealt with from 9,741 to 7,845. This was chiefly due to the fact that a number of requisitions against running contracts for oils, lubricants, etc., were drawn up by the indenting officers in a consolidated form, extending over several months, supplies being made by weekly, fortnightly or other instalments. In some cases, therefore, several inspections were actually carried out against a single requisition, and the number of inspections undertaken during the year was far more than that represented by the number of orders dealt with.

During the year twelve orders for plant and machinery and tanks and stagings were inspected, after erection at site, by this Agency. The important work of inspection during fabrication was also carried out on several other such orders which were finally inspected at site, after erection, by other Inspectorates and accounted for in their books. Two important orders falling under this category were those for aeroplane hangars at Delhi, amounting to Rs. 1,45,000, which were finally inspected by the Upper India Circle and a mention of which is made in paragraph 37. An important feature, which marks the development of Karachi Centre from an engineering point of view, was the ability of local firms to secure complete contracts, including steel as well as masonry work, for these two hangers, and for another erected at Karachi itself, for structural work for one hundred-thousand gallon and one fifty-thousand gallon tanks for the Military Engineer Services, Lahore, and for two large over-foot bridges at Amritsar. During fabrication suggestions were made by the Inspection Agency for improvement and were accepted and adopted, and the contracts were satisfactorily executed. Other important orders dealt with during the year comprised those for steel sections, electrical equipment for conversion of hand operated permanent-way cranes, D. C. generating sets, gas plant, and milling machines.

43. *Madras Inspection Branch.*—A substantial increase was recorded also in the value of work done by this, the smallest unit in the Inspection Branch. The number of orders received for inspection rose from 309 to 444 (by 44%) and their value from Rs. 6,33,590 to Rs. 8,04,066 (by 27%). This Inspectorate is largely employed on the inspection of textile orders placed by the Department itself. The value of such orders inspected during the year amounted to Rs. 5,59,438. In addition to this, Engineering, Hardware and Miscellaneous stores amounting to Rs. 2,44,628, were inspected during the year.

CHAPTER V.

THE METALLURGICAL INSPECTORATE.

44. *Work done.*—The activities of the Metallurgical Inspectorate, which were seriously affected during the year 1928-29 by the labour unrest and subsequent lock-out at the works of the Tata Iron and Steel Company, showed an all-round improvement during the year under review. The total value of materials of various descriptions handled during the year, namely, Rails, Fishplates, Structural steel, Black sheets, Sleepers and keys, Cables, Ammonium sulphate, etc., exceeded Rs. 474 lakhs. It will be observed from the diagrams in Appendix XI (VI) that the weight of the material inspected rose from 176,249 tons to 294,281 tons. The latter figure was short of the work done during 1927-28 (3,31,628 tons) by 37,347 tons, but this was due mainly to a reduction in the Railway Board's demand of rails, which is one of the principal items of material handled by the Inspectorate. An important order inspected during the year was for 8,000 tons of pressed steel sleepers, with necessary keys, placed with the Tata Iron and Steel Company.

The number of special tests carried out at the Inspectorate rose from 3,303 to 5,292, falling short of the highest previous record by 248 only. The number of estimations of carbon, silicon, manganese, sulphur and phosphorus rose from 22,272 to 30,880, and of routine physical tests carried out at the laboratories of the Inspectorate from 40,031 to 50,623 (*vide* Appendix XIII). The work connected with the sampling and analysis of ammonium sulphate was approximately the same as in the preceding year, owing, as explained in the previous report, to the fact that the product of the Tata Iron and Steel Company has reached a very uniform composition, rendering extensive sampling and analysis unnecessary. Although the number of samples taken and analysed rose from 38 to 47, the weight of sulphate represented by them fell from 6,113 to 6,073 tons.

The apparatus for the testing of the output of the Indian Cable Company was in operation from he 26th April 1929. Twelve lakhs seventy-five thousand seven hundred and sixty-five yards of cable, valued at approximately Rs. 1,93,161 were tested and certified, in addition to supplies inspected against the orders placed by the Department, which amounted to Rs. 8,69,779.

45. *Investigations.*—Ninety-three investigations were carried out during the year as compared with eighty-one in the year 1928-29. The revenue earned on this account amounted to Rs. 7,885, which is more than double that of the preceding year.

46. *Buildings.*—The construction of an additional residential bungalow for a gazetted officer was sanctioned during the year and entrusted to the Tata Iron and Steel Company. The work could not, however, be completed by the end of the financial year on account of unsettled labour conditions. This addition will complete the present requirements of the staff of the Inspectorate in this respect.

47. *Inspection and testing equipment.*—An Avery's wire testing machine was added during the year to the laboratory of the Inspectorate.

The services of the Metallurgical Inspectorate can be utilized by all Government Departments, public bodies and private concerns. With effect from the 1st April 1930, no charge will be made for work done on behalf of non-commercial civil departments of the Central Government. The fees chargeable for work done for others can be ascertained on application to the Metallurgical Inspector, Burma Mines, Tatanagar.

CHAPTER VI.

The Government Test House, Calcutta.

48. *General.*—The principal features of interest in the year under review have been the extensions to the main buildings of the Test House, thereby providing much needed additional laboratory accommodation for the Chemical Section, and the acquisition and installation of plant and apparatus for the new electrical laboratories of the Physical Section erected in 1928-29 and referred to in the report for that year. The new chemical block was opened by the Hon'ble Sir Bhupendra Nath Mitra, Member of the Viceroy's Executive Council in charge of the Department of Industries and Labour, and has, with his permission, been named " The Mitra Block ".

The considerable increase in the number of samples received during 1928-29 has not been maintained and the total number of samp'es tested fell from 9,133 to 8,428. The increase experienced in 1928-29 was principally due to the much larger number of samples received from State Railways in that year. These samples rose from 755 in 1927-28 to 2,745 in 1928-29. In the year under review the number has fallen to 1,638 and this more than accounts for the decrease in the total number of samples tested. While however, the amount of work received from State Railways has not been maintained at the high level reached in 1928-29, the figures for 1929-30, both for State Railways samples and for the total number of samples, compare favourably with those for 1927-28 and previous years.

Work from Central Government Departments has increased but the completion of the works in connection with King George's Dock, Calcutta, and of various re-inforced concrete bridges under construction by the Calcutta Improvement Trust, has resulted in a reduction in the number of samples received from public bodies. These samples fell from 957 in 1927-28 to 512 in 1928-29, and to 100 in the year under review.

The numbers of samples tested and analyses carried out on behalf of various authorities during the year and during the three preceding years will be found in Appendix XII B. A list of the materials and articles tested during the year will be found in Appendix XIV.

49. *Physical Section.*—During the year, the Physical Section carried out tests on 3,929 samples, as compared with 4,996 samples tested in 1928-29. The decrease has been due mainly to the lesser number of samples received from State Railways and from public bodies. There was also a decrease in the number of samples tested for the department itself, from 1,603 in 1928-29 to 1,502 in 1929-30.

The new electrical laboratories were equipped during the year and the number of samples, tested rose from 96 in 1928-29 to 295 during 1929-30. The equipment now available in these laboratories includes a specially constructed fan testing room and enclosure for testing both D. C. and A. C. ceiling fans in accordance with the requirements of B. E. S. A. Specification, electric cable and conductor testing apparatus, insulation testing equipment for electric cables, and apparatus for a wide range of other electrical testing. The power supply is provided by a 250 volts 80 ampere-hour storage battery

for direct current supply, and a 10 K. V. A. variable speed variable voltage single-phase motor alternator set with automatic voltage regulation for alternating current supply to the test rooms.

A 10 K. V. A. capacity 0-88000 volts single-phase testing transformer, with induction regulator for voltage control, has also been installed for high-voltage tests.

50. *Chemical Section.*—The number of samples reported upon by the Chemical Section, including the Oil Sub-section, was 4,499, as compared with 4,137 in the year 1928-29.

The increase was shared by both the main Section and by the Oil Sub-section, but mainly by the latter, the number of samples tested in the oil laboratories having increased from 1,285 in 1928-29 to 1,551 in 1929-30.

The number of samples of paints, pigments and varnishes tested during the year fell from 1,245 to 920. This fall is due mainly to the standardization of these materials which has been carried out in connection with the standard samples scheme, and was anticipated. On the other hand, increases were recorded in the numbers of samples of acids and chemicals (from 84 to 173), textiles (from 219 to 345), coa and coke (from 321 to 437), and iron and steel, copper, other metals and alloys (from 275 to 310).

The work carried out for the Army Department, Civil Departments of the Central Government, and for the I. S. D. increased, whereas that for State Railways shows a considerable decrease, as in the case of the Physical Section. The number of samples received from the latter source was 404 as compared with 1,032 received in 1928-29.

As regards the work for the Army Department, the general chemical work remained at approximately the same level, but the oil test ng work increased considerably, in spite of the fact that few samples are now received in connection with the annual Army contracts.

51. *Standardization of Oils, Paints, Varnishes, etc.*—The work in connection with the standard samples scheme for lubricating oils has been continued and 533 samples of lubricating oils, 11 samples of mineral colza and cutting oils, and 81 samples of greases, have so far been registered.

For the similar scheme for paints and varnishes 1,659 standard samples have been registered, out of which 1,182 samples have been tested. The investigations are continuing.

52. *Practical tests on Paints, Varnishes, etc.*—The exposure tests on panels prepared in previous years have been continued. In addition, 52 new paint samples were exposed on steel panels, and three on timber panels. Four combinations of paint and varnish and 37 varnishes were exposed on timber panels.

53. *Special investigations.*—Various investigations have been carried out during the year on behalf of the Army Department, the Railways, the Indian Stores Department itself, and the Tariff Board. Of these, the following are noteworthy :—

(1) Investigation of the effect of variation of atmospheric humidity and temperature on the properties of cotton fabrics of various types and weights.

(2) Investigation of the freezing points of petrol-benzol mixtures.

(3) Investigations on 80/20 petrol-benzol mixtures for aircraft, with a view to the drafting of an Army specification.

(4) Analyses and investigations of colour comparison of samples of salt for the Tariff Board.

(5) Investigations in connection with painting difficulties of the Burma Railways.

(6) Ageing tests and sludge tests on transformer oils.

(7) Investigations in connection with the revision of existing and the drafting of new specifications.

Of these investigations, items (1) and (5) are still in progress.

54. *Plant and Apparatus.*—The following items of plant and apparatus were added during the year to the laboratories of the Government Test House :—

(1) Amsler torsion testing machine for testing wires and rods up to ¼" diameter.

(2) Avery's Dorry type abrasion testing machine.

(3) 4" Short and Mason anemometer.

(4) 3" Lawrence and Mayo anemometer.

(5) Tinsley cable insulation testing set.

(6) 500 volts Exide accumulator battery for use with the above set.

(7) Standard megohm box for galvanometer calibration.

(8) 10 K. V. A., B. T. H., single-phase 230 volts motor-alternator set with variable speed and voltage adjustment and automatic voltage regulator.

(9) 10 K. V. A. Ferranti single-phase O-88000 volts testing transformer with induction voltage regulator.

(10) Everett-Edgcumbe electrostatic double-range voltmeter, O-12000 volts range, with range changing condenser.

(11) Siemens earth-testing set.

(12) Guild trichromatic colorimeter.

(13) Bunsen Erlenemeyer combustion furnace.

(14) Air-oven for the determination of moisture in shellac by the A. S. T. M. method.

(15) Redwood viscometer.

(16) Boiler for ageing tests on turbine oils.

The services of the Test House can be utilized by all Government departments, public bodies and private concerns. With effect from the 1st April 1930, no charge will be made for work done on behalf of non-commercial civil departments of the Central Government. The fees charged for work done for others can be ascertained on application to the Superintendent, Government Test House ,Alipore, Calcutta.

CHAPTER VII.

ENCOURAGEMENT OF INDIAN INDUSTRIES, LOCAL PURCHASES AND OTHER ACTIVITIES OF THE DEPARTMENT.

55. *Registration of firms at the Headquarters office.*—The possibilities of Indian sources of supply continued to be explored and as a result of enquiries made by the Department during the year 170 firms were added to the list of "Approved Contractors" and to the lists of firms maintained under the "Rules for the supply of articles for the public service". The applications of 77 firms for registration were rejected either on the grounds of their unsuitability as suppliers or of their ineligibility under the rules for enrolment. The various lists of "Approved Contractors" maintained in the Department were overhauled in the light of the experience gained during the past years and the names of 51 firms, which were considered for various reasons of no practical use to the Department, were removed.

The table below indicates the total number of firms registered up to the end of the year, distributed amongst the various provinces and classified according to the different descriptions of stores dealt with by them:—

Description of stores.	Bengal.	Bombay Presidency.		Madras.	Punjab.	United Provinces.	Delhi.	Burma.	Bihar and Orissa.	Central Provinces.	North-West Frontier Province.	Indian States.	Total.
		Bombay.	Karachi.										
Railway materials ..	69	46	5	10	10	3	7	7	5	..	..	..	162
Hardware	87	62	17	17	21	28	13	10	3	..	..	7	265
Implements and tools ..	53	41	10	15	13	4	12	11	2	..	..	3	164
Metals	88	64	17	15	21	10	15	14	5	1	..	3	253
Mechanical Equipment	167	134	19	35	30	15	21	31	4	..	..	8	464
Electrical Equipment	103	69	13	22	17	13	15	14	3	..	..	3	272
Oils	50	33	3	14	8	8	4	7	..	..	..	6	133
Paints	53	47	12	16	6	3	5	8	2	1	..	2	155
Chemicals (excluding medicines and drugs).	43	22	9	7	6	5	6	6	..	..	..	3	107
Textile—													
(*a*) Cotton materials	75	70	2	8	26	25	9	7	..	2	..	6	230
(*b*) Woollen materials.	24	21	2	6	9	13	1	2	..	..	1	5	84
(*c*) Jute, flax and hemp materials.	52	24	4	2	12	5	1	3	1	1	..	..	105
(*d*) Silk goods ..	..	..	..	..	..	1	..	..	..	..	..	..	1
Leather goods ..	19	4	1	2	5	15	4	3	..	..	..	..	53

Description of stores.	Bengal.	Bombay Presidency. Bombay.	Bombay Presidency. Karachi.	Madras.	Punjab.	United Provinces.	Delhi.	Burma.	Bihar and Orissa.	Central Provinces.	North-West Frontier Province.	Indian States.	Total.
Structural engineering.	45	14	2	6	2	4	3	7	2	..	..		86
Miscellaneous stores	204	145	32	38	60	52	42	28	3	8	2	10	624
Medical, surgical and scientific stores and equipment (excluding medicines, chemicals and drugs).	13	3	..	3	3	1	..	..	..	..	..	..	23
Wireless stores ..	2	2	..	..	..	..	..	1	..	..	..	..	5
Mathematical, drawing and surveying instruments and equipment.	10	9	..	..	..	..	1	1	..	..	..	..	21
Total ..	1,157	810	148	216	249	205	159	160	30	13	3	57	3,207
Deduct—Overlapping figures for firms registered for more than one item.	671	437	93	145	107	65	91	86	20	2	..	21	1,738
Net Total ..	486	373	55	71	142	140	68	74	10	11	3	6	1,469

56 *Registration of firms at local Purchase Circles.*—In addition to the number mentioned in paragraph 55, 58 firms were brought on to the lists maintained by the Provincial purchase organisations of the Department. Of these 41 are located at Calcutta, 8 at Bombay, 8 at Karachi and one at Madras.

57. *Advice to manufacturers.*—Efforts to assist manufacturers in India in improving the quality of their products by means of technical advice and suggestions were continued.

After a careful inspection by the technical staff of the Department, contracts for cast iron pipes and specials amounting to Rs. 2,92,339 were placed with a new Iron Foundry in Southern India, which had not previously manufactured such class of work to the specification laid down by the Department. An Assistant Engineer from the Bombay Circle and another from the Calcutta Circle were specially deputed to supervise the manufacture and stationed at the works for several weeks. Through their help and advice the quality of the castings was much improved, and the percentage of rejections reduced, thereby lowering the cost of production. These measures have not only increased the output of acceptable pipes and specials in India, which is now sufficient to meet the demands, but have also stimulated competition in prices.

A list of other articles to which attention was specially devoted during the year is given below :—

Anchors.
Bags, tool, bicycle and carriers kit rear straps.
Buttons, brass.
Enamel, navy green.
Fittings, carriage, wagon and vacuum brake.
Magnesium chloride.
Padlocks.
Paint, red oxide, dry.
Points and crossings.
Pugrees.
Rubber goods.
Rubber tubing.
Sleepers.
Troughs, water, semi-nestable.

58. *Technical equipment.*—The unsatisfactory way in which an order for Railway connecting and coupling rods was executed by a firm, showed in a very striking manner how poorly equipped some manufacturing concerns are for undertaking heavy work where accuracy is necessary. To be able to turn out first-class work quickly and accurately a large amount of antiquated machinery must be replaced by modern machine tools, and adequate supervision provided. Advice was continually offered to manufacturers for improving their equipment. A firm in Bengal manufacturing surgical dressings has accepted and given effect to suggestions made for the improvement of their sterilizing plant. Another in Bombay is erecting a plant for pressing steel troughings which will be the first of its kind in India, and a third, also in the Bombay Presidency, has ordered plant for the manufacture of points and crossings.

59. *Substitution of articles of Indian manufacture for imported articles.*—In paragraphs 21 and 22 mention has been made of the fact that the Department availed itself of every opportunity, consistently with the principles of efficiency and economy, of purchasing articles of Indian origin and manufacture in preference to those manufactured abroad. The following is a list of the more important contracts placed during the year for products which have been wholly or partially manufactured in India :—

Textiles materials.

		Amount. Rs.
1. Drill—		
Khaki	7,27,000	
Coloured	3,80,000	
White and grey	86,000	13,08,000
Jean	1,03,000	
Gaberdine	12,000	
2. Cotton waste for cleaning and axle box packing		12,36,000
3. Blankets, woollen		10,08,000
4. Tents and tent components		9,74,000

Textiles materials—contd.

	Amount. Rs.
5. Yarn, woollen, and cotton	7,05,000
6. Serges, Great-coat cloth and Broad cloth	6,96,000
7. Waistcoat cardigans, jerseys and jackets	5,47,000
8. Paulins	4,96,000
9. Pugri cloth, muslin, nainsook, calico, etc.	4,57,000
10. Socks woollen and cotton	4,55,000
11. Jhools and rugs	3,44,000
12. Cordages, ropes and twine	2,25,000
13. Bags, postal, dosuti, flax, and jute, Canvas, proofed and unproofed	2,12,000
14. Sheets, Hospital and Barrack	1,76,000
15. Carpets, pile, woollen	1,72,000
16. Flannelette, Mark III	1,31,000
17. Durries, cotton	1,21,000
18. Dosuti	95,000
19. Putties, woollen and cotton	94,000
20. Bags, kit	93,000
21. Overcoats of blanketting cloth and greatcoats	93,000
22. Dhoti cloth and sheetings	86,000
23. Blanketting cloth	78,000
24. Capes and coats, waterproof	41,000
25. Tape and web cotton	39,000
26. Bunting	38,000
27. Flannel	32,000
28. Leather and leather articles	27,000
29. Long cloth, Garah cloth, etc.	25,000
30. Twill, cotton, khaki	25,000
31. Wool cotton, absorbent, surgical	23,000
32. Canvas, flax, waterproof and sheets, canvas	18,000
33. Comforters, caps comforters and caps balaclava	
34. Dusters	16,000
35. Cloths, of various kinds	14,000
36. Kullahs	14,000
37. Thread sewing, cotton and linen	10,000
38. Gauze absorbent	10,000
39. Cases, mattress, pillows, etc.	10,000
40. Covers, waterproof	10,000
41. Druggets and curtains (furnishing fabrics)	10,000
42. Ticken and lining cloth	10,000
43. Umbrellas	10,000

		Amount. Rs.
Plant and Machinery, Structural Steel, Electrical and Water Supply Stores.		
44. Copper wire		10,86,000
45. Pipes, cast iron		9,29,000
46. Cables and wire		2,90,000
47. Steelwork for Hangars		2,39,000
48. Steel tanks with staging, etc.		2,25,000
49. Arch centrings for bridges		2,13,000
50. Steel lighter for Andamans		1,52,000
51. Steelwork for suspension bridge		1,52,000
52. Steelwork for road bridges		1,22,000
53. Steel barges		1,11,000
54. Insulators, porcelain		1,00,000
55. Pipes, earthenware		54,000
56. Steelwork for buildings		49,000
57. Electric Fans, "India"		32,000
58. Pig lead, Burma		30,000
59. Target apparatus		21,000
60. Mooring buoys		11,000
Hardware and miscellaneous stores.		
61. Cement		21,38,000
62. Oil, Axle, all weather		7,45,000
63. Steel Sections		7,16,000
64. Paints, including dry pigments		5,94,000
65. Oil, kerosine		5,63,000
66. Road surfacing material		3,94,000
Road tar	94,000	
Colfix	1,16,000	
Colas	1,57,000	
Mexaco	17,000	
Pitch and Tar mixture	10,000	
67. Linseed Oil, Raw and double boiled		3,67,000
68. Castor Oil		3,61,000
69. Petrol		3,02,000
70. Oil, gas making		2,85,000
71. Sheets, black, mild steel		2,54,000
72. Turpentine		1,89,000
Genuine	1,21,000	
No. 2	42,000	
Substitute	26,000	
73. Pig iron		1,51,000
74. Enamels		80,000
75. Soaps, soft and hard		58,000
76. Acids		56,000
77. Timber for packing cases		56,000
78. Coal Tar for painting purposes		54.000
79. Road making tools		48.000
80. Sleepers Timber, Sal and Deodar		37.000

Hardware and Miscellaneous Stores.	Amount. Rs.
81. Oil, cleaning	31,000
82. Varnishes	30,000
83. Teak wood planks	25,000
84. Locks	20,000
85. Tallow	19,000
86. Bituminous solution	18,000
87. Safes	12,000

A contract placed in pursuance of the policy of encouraging the industries of the country deserves special notice. It relates to the purchase of turpentine produced in India, amounting to Rs. 1,62,893, in preference to the foreign product, although the course adopted entailed the payment of a slightly higher price.

Owing to the lead given by the Department in purchasing Indian made electric fans, spares and electric fittings, supplies of these articles are now being accepted by various using Departments.

The following are a few other instances in which the policy of substituting articles of Indian manufacture for those previously imported has been further developed :—

Bunting, green, dark green, emerald and red.

Cambric.

Drill, khaki.

Enamel, signal red.

Fire bricks.

Fringes, pagri.

Paint, buff, silicate.

Polish, Brass.

Serge, blue.

Serge, white, lining.

Shackles, galvanised iron.

Tape, worsted.

Twill, khaki.

Varnish, copal.

60. *Exhibition of Indian products.*—With the object of bringing prominently to the notice of officers of using Departments, and the public generally, the range of manufactures and standard of quality attained by certain Indian industries, a beginning has been made of what it is hoped in time will prove to be a valuable collection of exhibits of articles of Indian manufacture. The collection at present comprises : rolled steel sections, agricultural implements cast iron and stoneware pipes, steel cupboards and safes, fire extinguishers,

electric fans, insulators, oils, paints, rosin, turpentine, chemicals, scientific instruments, glassware, crockery, footwear, textile fabrics, etc.

The eagerness shown by many Indian industrialists to providing free of any cost examples of their manufactures has been most gratifying and may be assumed to be a recognition by them of the usefulness of such an exhibition.

61. *Scrutiny of Indents on the India Store Department, London.*—There was a further marked reduction during the year under review in the number and value of indents on the India Store Department, London, and increase in the value of items which were challenged by the Department. One thousand four hundred and fourteen indents of the estimated value of Rs. 3,16,06,941 were examined during the year, as against 1,533 indents of the aggregate value of Rs. 6,28,85,361 in the year 1928-29. The value of items challenged in these indents amounted, on the other hand, to Rs. 14,95,803, or 4·7% of the value of indents, as against Rs. 10,41,133, or 1·7% only, in the preceding year.

Financial Statement of the Working of the Indian Stores Department for the years 1926-27, 1927-28, 1928-29 and 1929-30.

Particulars.	Amount.			
	1926-27.	1927-28.	1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.
1. Pay of Officers ..	5,91,534	6,55,336	7,26,025	7,00,920
2. Pay of Establishment	5,23,082	5,97,467	6,63,837	7,02,239
3. Allowances	1,69,105	1,77,028	1,97,378	2,04,268
4. Grants-in-aid ..	2,136	600	600	600
5. Supplies and Services	69,864	87,994	1,35,971	1,75,096
Deduct amount treated as Capital Expenditure	18,433	10,968	8,663	18,676
	51,431	77,026	1,27,308	1,56,420
6. Contingencies ..	1,29,757	1,19,002	1,14,171	1,09,855
Deduct amount treated as Capital Expenditure	12,985	517	..	..
	1,16,772	1,18,485	1,14,171	1,09,855
7. Works (including Petty Constructions and Repairs)	91,854	9,558	36,097	78,831
Deduct amount treated as Capital Expenditure	77,446	978	20,831	50,863
	14,408	8,580	15,266	27,968
Total direct Expenditure charged to Indian grant (excluding expenditure in England and exchange)	15,77,332	16,46,985	18,74,079	19,71,809
Deduct amount treated as Capital Expenditure	1,08,864	12,463	29,494	69,539
Net direct expenditure	14,68,468	16,34,522	18,44,585	19,02,270
8. Leave salary and Overseas pay paid in England	85,565	47,614	31,072	47,358
9. Pensionary Charges ..	86,674	1,02,840	1,15,959	1,21,163
10. Government contribution to Provident Fund	38,571	38,540	41,957	44,080
11. Interest on Capital Outlay	65,032	62,560	58,336	59,522
12. Depreciation charges	28,876	23,833	22,444	21,970
13. Stationery and Printing	29,689	45,867	40,589	36,907
14. Cost of Audit and Accounts	1,41,563	1,94,981	2,30,683	2,22,875
Total ..	19,44,438	21,50,757	23,85,625	24,56,145

Particulars.	Amount.			
	1926-27.	1927-28.	1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.
1. By recoveries on account of fees for tests, inspections, etc., made from Government Departments, Railways, Private firms and individuals ..	8,99,721	9,37,357	7,11,977	9,69,526
2. By 1% inspection charge	2,04,666	2,43,080	2,39,323	3,35,004
3. By 1% purchase charge	3,39,309	3,48,884	3,39,403	4,17,127
4. By Miscellaneous Receipts	37,307	44,572	33,140	56,392
Total Receipts ..	14,81,003	15,73,893	13,23,843	17,78,049
5. By net loss for the year	4,63,435	5,76,864	10,61,782	6,78,096
Total ..	19,44,438	21,50,757	23,85,625	24,56,145

CHAPTER VIII.

FINANCE.

62. *Statistics of revenue and expenditure.*—The figures of revenue and expenditure published in the previous reports represented the net revenue, after deducting the share credited to the Audit Department, and the direct expenditure in India shown in the Departmental accounts. A *pro-forma* profit and loss account, showing the gross revenue and the total cost of the operations of the Department on a commercial basis, was published annually in the Appropriation Accounts of the Central Government. With a view to present a more accurate picture of the financial position of the Department, it has been decided to recast the financial statement in the annual report on the lines of the *pro-forma* profit and loss account, and the statement facing this page indicates the financial results of the working of the Department on these lines for the year under review and three preceding years. The statement excludes expenditure of a capital nature, such as the cost of new buildings, or extensions to existing buildings, and plant and machinery, but includes the indirect charges, namely, leave salaries and overseas pay drawn from the Home Treasury, Government contributions to the Provident Fund accounts, pensionary charges, interest and depreciation on capital outlay, cost of printing and stationery supplied free of charge by the Printing and Stationery Department, and the cost of accounts and audit debited to the Audit Department, which are not directly debited to the grant allotted to the Department for expenditure in India.

The figures for the years 1927-28 and 1928-29 are those published in the Appropriation Accounts for 1928-29. The figures for the year 1926-27 published in the Appropriation Accounts represented, on the Revenue side, the value of work done, but the subsequent accounts have been prepared on the basis of recoveries actually made and accounted for. The former figures have, therefore, been recast on the basis of actual realisations, in order to be comparable with those of the succeeding years. The figures for the year 1929-30 are provisional, as the accounts have not been finally closed. Final figures for the year will be shown in the next Report. For facility of comparison with the figures published in the previous reports, on the lines of direct expenditure against Indian grant, the direct and indirect charges have been shown separately in the financial statement.

63. *Financial position.*—The accounts for the year 1928-29, as presented in paragraph 61 of the report for that year, showed that the revenue of the Department amounted to Rs. 13,09,674 and the expenditure to Rs. 18,06,407, with a consequential deficit of Rs. 4,96,733. The final accounts, which were subsequently compiled, closed with a net deficit of Rs. 6,92,161, after deducting from the revenue realised the share creditable to the Audit Officer, Indian Stores Department, for the work undertaken by him in connection with the financial operations of the Department. The actual deficit on the working of the year, including the indirect charges, amounted to Rs. 10,61,782. This deficit was larger in amount, and also as a percentage of working expenses (44·5%), than that of any preceding year. As explained in paragraph 62 of the last report, the main cause of this set back was the industrial unrest which

seriously affected the work of the Department, more particularly that of the Calcutta Inspection Circle and the Metallurgical Inspectorate.

The results of the year under review show a very substantial improvement. The revenue increased by over 34% while the expenditure increased by less than 3%. The deficit, which is provisionally calculated at Rs. 6,78,096, was appreciably less than that recorded in the preceding year and amounted to 27·6% only of the total working expenses.

Although the Department was constituted from 1st January 1922, its operations were limited mainly to the purchase of textile stores until the year 1924-25. The expenditure of the Department (including indirect charges) has increased during the last six years (that is, from 1924-25 up to date) by Rs. 11,78,767 (or 92%), from Rs. 12,77,378 in 1924-25 to Rs. 24,56,145 in 1929-30. The revenue realised has, on the other hand, increased during the same period by Rs. 9,80,866 (or 123%), from Rs. 7,97,183 in 1924-25 to Rs. 17,78,049 in 1929-30. It will be observed from these figures that the expenditure per rupee earned, which amounted to Rs. 1·6 in the year 1924-25, has been gradually reduced to Rs. 1·38 in the year 1929-30.

The whole of the deficit shown in the statement must not be regarded as a loss, since considerable assistance is afforded by the Department to Indian industries directly by way of advice to manufacturers, by scrutiny of home indents and by the diversion, wherever possible, of demands to Indian sources of supply. The services of the Department are also available to its clients, as well as to other Government Departments, and public bodies, for technical advice, including examination and preparation of specifications for stores in which due weight is given to the manufacturing capacity of Indian firms, reports on capacity and standing of Indian manufacturers, and general market intelligence relating to Indian sources of supply. The cost of these services cannot be segregated from that of the ordinary work of the Department, but there is no doubt that they materially contribute towards the furtherance of the policy of the Government of India in developing to the utmost possible extent the industrial resources of the country.

64. *Departmental charges for services rendered by the Indian Stores Department.*—Though the Indian Stores Department was not constituted as a commercial undertaking, it has been required, since its creation in 1922, to levy certain charges, at prescribed rates, for services rendered by it to other Government Departments, as well as quasi-public bodies, Indian States and private parties, in connection with the purchase and inspection of stores, and tests and analyses carried out at its laboratories.

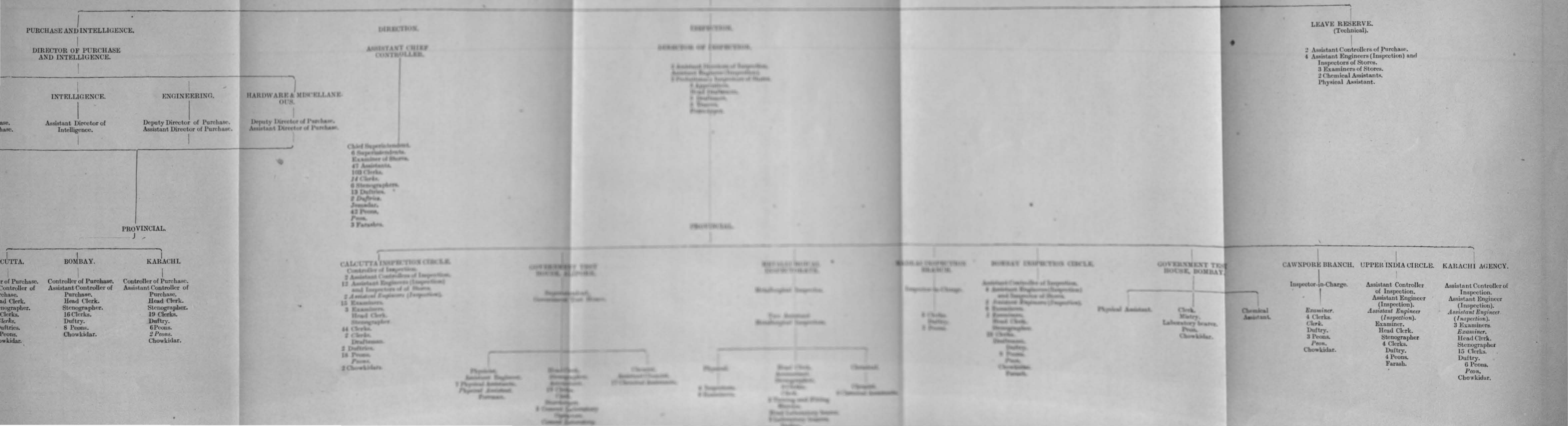
The question of definitely declaring the Department as a commercial or a service undertaking had been under the consideration of the Government of India for some time and they decided in January 1930 that the Department could not for the present be declared to be a commercial undertaking, as some of its activities, particularly those relating to the development of Indian Industries, were admittedly of a non-commercial character, and that it should, therefore, be treated as a public service Department. As a corollary of this decision, it has been decided to discontinue the levy of the departmental charges for work done on behalf of the non-commercial civil departments

of the Government of India (including the minor local administrations), with effect from the 1st April 1930. Credit will, however, continue to be shown for these services at the scheduled rates, in the *pro-forma* Profit and Loss Account of the Department. It is believed that this decision will result in an appreciable increase in the value of business from the non-commercial civil departments of the Central Government.

65. *Financial equilibrium.*—As will be observed from the financial statement, the working of the year under review marks an appreciable advance towards the goal of financial equilibrium set before the Department. With the further expansion of business expected as a result of the withdrawal of the departmental charges for work done for certain departments, of which mention is made in the preceding paragraph, and as a result of the introduction of the rupee tender system and other measures to which reference has been made in the first chapter, it is confidently expected that even more satisfactory results will be achieved in the succeeding years.

SIMLA; J. S. PITKEATHLY,

Dated the 12th June 1930. *Chief Controller of Stores*
Indian Stores Department.


PURCHASE AND INTELLIGENCE.
DIRECTOR OF PURCHASE AND INTELLIGENCE.
INTELLIGENCE.
Assistant Director of Intelligence.
ENGINEERING.
Deputy Director of Purchase.
Assistant Director of Purchase.
HARDWARE & MISCELLANEOUS.
Deputy Director of Purchase.
Assistant Director of Purchase.
PROVINCIAL.
BOMBAY.
Controller of Purchase.
Assistant Controller of Purchase.
Head Clerk.
Stenographer.
16 Clerks.
Duftry.
8 Peons.
Chowkidar.
KARACHI.
Controller of Purchase.
Assistant Controller of Purchase.
Head Clerk.
Stenographer.
19 Clerks.
Duftry.
6 Peons.
2 Peons.
Chowkidar.
DIRECTION.
ASSISTANT CHIEF CONTROLLER.
INSPECTION.
DIRECTOR OF INSPECTION.
PROVINCIAL.
CALCUTTA INSPECTION CIRCLE.
BOMBAY INSPECTION CIRCLE.
GOVERNMENT TEST HOUSE, BOMBAY.
Physical Assistant.
Chemical Assistant.
LEAVE RESERVE.
(Technical).
2 Assistant Controllers of Purchase.
4 Assistant Engineers (Inspection) and Inspectors of Stores.
3 Examiners of Stores.
2 Chemical Assistants.
Physical Assistant.
CAWNPORE BRANCH.
Inspector-in-Charge.
Examiner.
4 Clerks.
Clerk.
Duftry.
3 Peons.
Peon.
Chowkidar.
UPPER INDIA CIRCLE.
Assistant Controller of Inspection.
Assistant Engineer (Inspection).
Assistant Engineer (Inspection).
Examiner.
Head Clerk.
Stenographer
4 Clerks.
Duftry.
4 Peons.
Farash.
KARACHI AGENCY.
Assistant Controller of Inspection.
Assistant Engineer (Inspection).
Assistant Engineer (Inspection).
3 Examiners.
Examiner.
Head Clerk.
Stenographer
15 Clerks.
Duftry.
6 Peons.
Peon.
Chowkidar.

APPENDIX II.

INDIAN STORES DEPARTMENT.

GAZETTED STAFF.

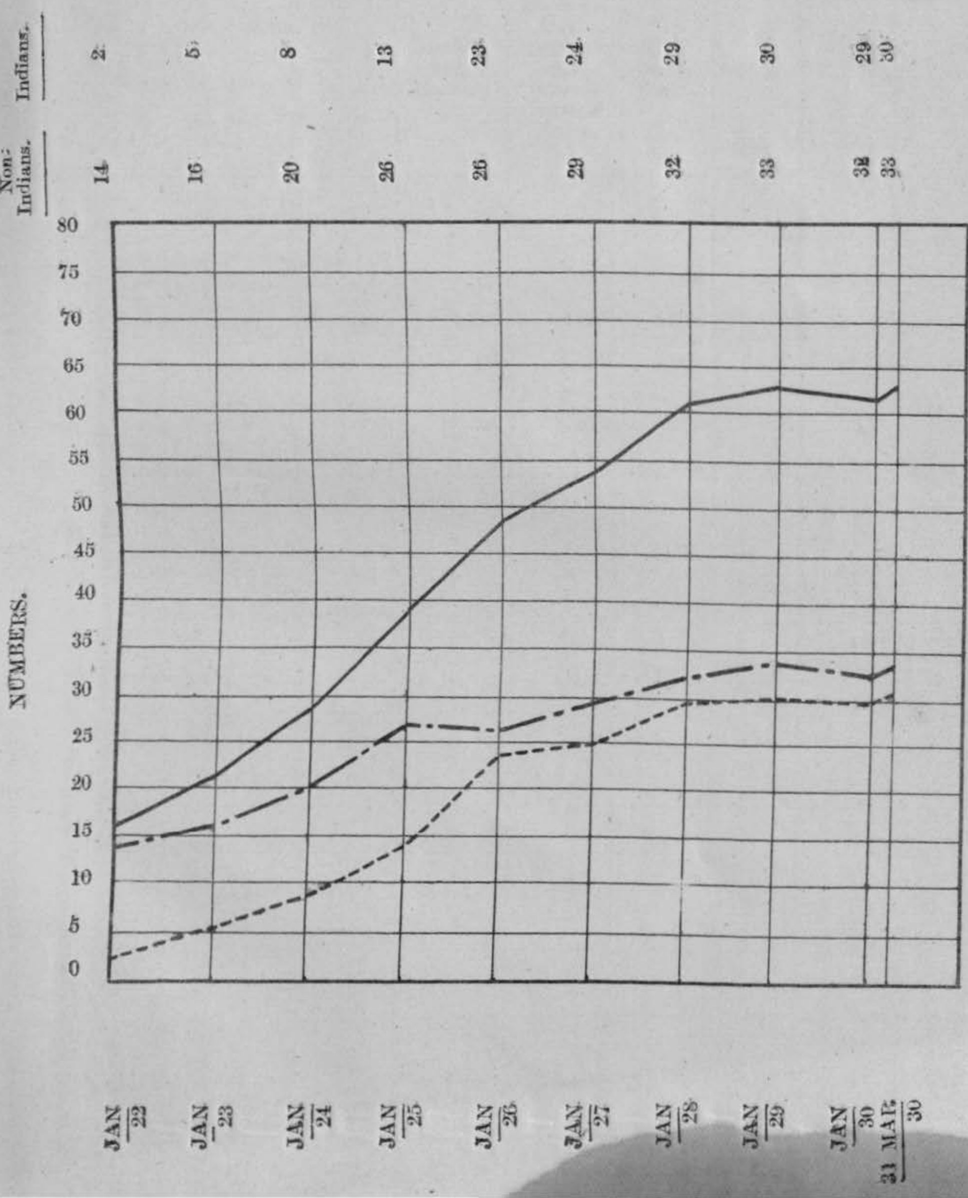
Up to 31st March 1930.

(*Vide* paragraph 14 of the report.)

TOTAL ————————

INDIANS - - - - - - - - - -

NON-INDIANS —·—·—·—·



APPENDIX III.

Statement showing the value (in thousands of rupees) of stores purchased on behalf of various authorities utilizing the services of the Indian Stores Department during the year 1929-30 and three preceding years. (Vide *paragraphs 1, 17 and 18 of the Report.*)

(*a*) Items below rupees one thousand in value.

(*b*) Adjustments owing to cancellation of previous year's orders.

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	CENTRAL—ARMY.						
1	Quartermaster General in India (including M. T.) ..	46	217	263	180	2,298	9,242
2	Master General of Ordnance	4,372	291	4,663	7,102	6,586	3,161
3	Military Engineer Services ..	26	6,383	6,409	5,432	5,613	4,808
4	Royal Indian Marine Dockyard, Bombay	39	415	454	578	539	119
5	Royal Air Force	8	94	102	82	557	131
6	General Staff Branch ..	..	..	..	..	18	(*a*)
7	Establishment Officer, Army Headquarters	..	..	..	..	(*a*)	(*a*)
8	Embarkation Supply Officer, Bombay	..	..	..	..	..	1
9	Adjutant General in India ..	..	(*a*)	(*a*)	..	(*a*)	..
10	Officer Commanding 10/4th Grenadiers, Ajmere ..	..	..	..	(*a*)	..	..
11	Commanding, K. G. O. Bengal Sappers and Miners ..	..	..	..	(*a*)	..	..
12	Brigade Major, Razmak ..	(*a*)	..	(*a*)	(*a*)	..	..
13	Military Accountant General	..	(*a*)	(*a*)	..	..	..
	Adjustment on account of fractions of a thousand ..	1	..	1	1	..	..
	Total Central—Army ..	4,492	7,400	11,892	13,275	15,611	17,462

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	CENTRAL.—CIVIL (*including minor administrations*).						
14	Government of India, Secretariat and Attached Offices	65	5	70	3	34	48
15	Indian Posts and Telegraphs Department	723	3,145	3,868	1,003	1,084	819
16	Northern India Salt Revenue	18	100	118	317	83	283
17	Customs Department ..	9	(*a*)	9	21	44	21
18	Opium Department ..	28	7	35	10	44	18
19	Incometax Department ..	(*a*)	(*a*)	(*a*)	4	2	3
20	Audit and Accounts Department	1	1	2	1	1	3
21	Currency Department ..	(*a*)	(*a*)	(*a*)	(*a*)	5	3
22	His Majesty's Mints, Calcutta and Bombay	4	30	34	(*b*) —1	48	4
23	Security Printing Department	1	82	83	86	73	64
24	Printing, Stationery and Stamps	19	16	35	42	40	77
25	Geological Survey ..	2	..	2	(*a*)	..	..
26	Mining Department ..	(*a*)	12	12	37	48	35
27	Meteorological Department	1	5	6	8	2	2
28	Archæologica lDepartment	..	1	1	2	18	10
29	Survey of India	101	3	104	60	103	65
30	Director-General, Indian Medical Service	44	..	44	373	220	226
31	Superintendent, Viceregal Estates	(*a*)	4	4	2	(*a*)	1
32	Civil Aviation Department ..	..	316	316	..	..	..
33	P. W. D. Simla Imperial Circle	(*a*)	17	17	15	24	1

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	CENTRAL—CIVIL—*contd.*						
34	Inspector-General of Forests, Dehra Dun	..	(*a*)	(*a*)	..	1	11
35	Forest Economist	..	..	..	2	..	..
36	Forest Research Institute, Dehra Dun	..	5	5	6	..	13
37	Central Research Institute, Kasauli	..	1	1	9	..	..
38	Malaria Survey of India, Kasauli	..	..	..	22	..	..
39	Director of Malaria Survey, Karnal	..	(*a*)	(*a*)	..	..	..
40	Agricultural Research Institute, Pusa	..	61	61	1	..	6
41	Chief Inspecto Explosives, Calcutta	..	..	..	..	1	..
42	Veterinary Research Institute, Muktesar	2	12	14	13	14	6
43	Dairy Expert, Bangalore ..	..	..	..	..	..	2
44	Physiological Chemist, Bangalore	..	..	..	..	(*a*)	..
45	Royal Botanical Gardens ..	(*a*)	4	4	..	..	3
46	Chief Commissioner, Delhi ..	..	..	..	(*a*)	..	..
47	Police Department, Delhi ..	27	..	27	..	4	9
48	Public Works Department, Delhi	206	679	885	1,109	913	728
49	Education Department, Ajmer-Merwara and Delhi ..	..	(*a*)	(*a*)	..	..	..
50	Medical Department, Delhi ..	..	(*a*)	(*a*)	..	..	..
51	Imperial Works Division, Dehra Dun	..	15	15	37	16	114
52	Andamans Commission ..	33	243	276	406	234	241
53	Forest Officer, Andamans ..	..	257	257	10	..	..

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	CENTRAL—CIVIL—*contd.*						
54	Police Department, Andamans and Nicobars ..	6	(*a*)	6	..	..	..
55	Engineer and Harbour Master, Port Blair	..	66	66	..	..	..
56	Captain Superintendent, I.M.M.T.S. "Dufferin".	2	9	11	25	3	..
	North-West Frontier Province.						
57	Revenue Department ..	..	(*a*)	(*a*)	(*a*)	(*a*)	..
58	Agriculture Department ..	..	..	..	..	(*a*)	..
59	Jail Department	22	..	22	1	..	..
60	Police Department ..	77	..	77	48	62	61
61	Public Works Department ..	(*a*)	45	45	85	2	(*a*)
62	Medical Department ..		8	8	(*a*)	..	..
	Coorg.						
63	Chief Commissioner ..	..	(*a*)	(*a*)	16	4	3
64	Forest Department ..	3	(*a*)	3	3	(*a*)	..
65	Public Works Department ..	..	34	34	1	(*a*)	..
66	Police Department ..	3	..	3	1	..	..
67	Baluchistan, Public Works Department.	(*a*)	196	196	12	17	(*a*)
68	Baluchistan Agency ..	..	(*a*)	(*a*)	(*a*)	3	9
69	Central India, Public Works Department	..	16	16	16	21	1
70	Rajputana Agency ..	1	9	10	1	11	8
71	Rajputana, Public Works Department	..	9	9	..	..	..
72	Western India States Agency	..	..	..	8	..	..
73	Persian Gulf Residency ..	..	(*a*)	(*a*)	..	(*a*)	..

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	CENTRAL.—CIVIL—*concld.*						
74	Agent to the Governor General in Central India ..	..	(*a*)	(*a*)	2	2	5
75	His Britannic Majesty's Consul in Sistan	..	(*a*)	(*a*)	(*a*)	..	..
76	British Envoy at the Court of Nepal	..	..	..	(*a*)	(*a*)	(*a*)
77	Resident in Hyderabad ..	1	..	1	1	..	..
78	Resident in Mysore ..	..	(*a*)	(*a*)	..	(*a*)	..
79	Political Agent, Gilgit ..	..	..	..	..	(*a*)	..
80	Political Agent, Loralai ..	..	..	..	19	..	..
81	Political Agent, Zhob, Fort Sandeman	..	..	..	..	..	(*a*)
82	Political Agent, Punjab States	..	..	..	(*a*)	..	..
83	Political Agent, Kathiawar ..	..	..	..	(*a*)	(*a*)	..
84	Political Agent, Sibi ..	..	(*a*)	(*a*)	..	..	..
85	Political Agent, Sambalpur	..	(*a*)	(*a*)	..	..	..
86	Political Officer, Sikkim ..	..	2	2	3	..	5
87	Political Officer, Balipara Frontier Tracts, Lokra ..	..	..	..	(*a*)	..	..
88	Political Officer, Chagai ..	..	(*a*)	(*a*)	..	..	..
89	Government Cattle Farm, Hissar	1	(*a*)	1	..	..	..
90	Protector of Emigrants, Bombay	..	..	..	(*a*)	..	..
91	Research Botanist and Laboratory	(*a*)	..	(*a*)	..	..	..
92	Government Cattle Breeding Farm, Karnal	..	(*a*)	(*a*)	..	..	..
93	Police Department, Aden ..	2	..	2	..	..	..
	Adjustment on account of fractions of a thousand ..	..	2	2	..	..	..
	Total Central—Civil ..	1,402	5,417	6,819	3,842	3,181	2,922

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	Railways—State-worked.						
94	North Western Railway ..	941	2,418	3,359	2,792	3,236	2,879
95	Eastern Bengal Railway ..	293	1,121	1,414	1,486	404	36
96	East Indian Railway ..	1,855	3,427	5,282	3,117	2,144	2,238
97	Great Indian Peninsula Railway	763	2,430	3,193	2,321	1,181	1,865
98	Burma Railways	61	490	551	87	18	39
99	Aden Railways	..	..	..	1	(a)	5
100	Central Publicity Bureau, Indian State Railways ..	(a)	7	7	..	..	..
	Adjustment on account of fractions of a thousand ..	—1	+1	..	—1	..	..
	Total State-worked Railways	3,912	9,894	13,806	9,803	6,983	7,062
	Railways—Company-worked.						
101	Assam Bengal Railway ..	40	234	274	340	211	205
102	Bombay, Baroda and Central India Railway	8	1	9	..	(b) —3	35
103	South Indian Railway ..	42	337	379	114	104	74
104	Bengal Nagpur Railway ..	115	11	126	..	14	45
105	Madras and Southern Mahratta Railway	..	440	440	139	120	50
106	Bengal and North Western Railway	..	..	..	..	..	33
107	Sind Railway	..	..	..	..	..	(a)
108	H. E. H. The Nizam's Guaranteed State Railway ..	..	..	..	6	54	33
109	Barsi Light Railway ..	..	..	..	..	13	..
	Adjustment on account of fractions of a thousand ..	..	—1	—1	..	..	..
	Total Company-worked Railways	205	1,022	1,227	599	513	475

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year. 1928-29.	1927-28.	1926-27.
	Railways worked by Indian States.						
110	Mysore Railways	..	2	2	2	115	5
111	Jodhpur Railway	..	11	11	(a)	..	(a)
	Adjustment on account of fractions of a thousand ..	..	..	..	1	..	..
	Total Railways worked by Indian States. ..	..	13	13	3	115	5
	Total Railways	4,117	10,929	15,046	10,405	7,611	7,542
	PROVINCIAL.						
	Madras.						
112	Public Works Department ..	2	426	428	189	43	940
113	Agriculture Department ..	(a)	10	10	7	5	(a)
114	Forest Department ..	..	(a)	(a)	..	3	2
115	Police Department ..	1	1	2	7	8	1
116	Accounts Department ..	..	..	..	(a)	..	..
117	Jail Department	9	(a)	9	15	14	(a)
118	Printing and Stationery Department	..	..	..	(a)	2	2
119	Education Department ..	..	(a)	(a)	23	(a)	(a)
120	Medical Department ..	..	(a)	(a)	..	(a)	1
121	Revenue Department ..	..	..	..	(a)	..	(a)
122	Judicial Department ..	..	..	..	(a)	..	..
	Adjustment on account of fractions of a thousand ..	..	1	1	..	..	..
	Total Madras ..	12	438	450	240	75	946

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	PROVINCIAL—*contd.* *Bombay.*						
123	Public Works Department (Lloyd Barrage) ..	102	2,332	2,434	3,720	4,232	3,311
124	Public Works Department ..	1	138	139	242	271	781
125	Agriculture Department ..	..	3	3	..	..	3
126	Forest Department ..	17	15	32	18	20	33
127	Police Department ..	128	2	130	70	28	45
128	Jail Department	204	3	207	168	97	113
129	Printing and Stationery Department	6	10	16	14	13	10
130	Development Department ..	..	5	5	10	3	..
131	Medical Department ..	(*a*)	1	1	3	3	1
132	Sanitary Department ..	..	4	4	5	(*a*)	6
133	Revenue Department ..	(*a*)	(*a*)	(*a*)	(*a*)	1	..
134	Salt and Excise Department	1	13	14	13	3	3
135	Education Department ..	..	9	9	..	..	..
	Adjustment on account of fractions of a thousand ..	1	1	2	2	1	..
	Total Bombay ..	460	2,536	2,996	4,265	4,672	4,306
	Bengal.						
136	Public Works Department ..	..	52	52	494	218	23
137	Forest Department ..	..	13	13	4	1	11
138	Police Department ..	1	10	11	13	15	1
139	Jail Department	..	5	5	9	32	52
140	Education Department ..	..	2	2	9	(*a*)	1
141	Medical and Sanitary Departments	..	(*a*)	(*a*)	(*a*)	(*a*)	1

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	PROVINCIAL—*contd.*						
	Bengal—contd.						
142	Revenue Department ..	..	1	1	1	(*a*)	(*a*)
143	Excise Department ..	..	..	..	..	..	(*a*)
144	Judicial Department ..	..	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)
145	Marine Department ..	..	..	..	..	6	..
146	Superintendent, Governor's Estate	..	..	..	(*a*)	4	2
147	Cinchona Cultivation ..	..	..	..	2	3	1
148	Printing Department ..	..	1	1	..	..	..
	Total Bengal ..	1	84	85	532	279	92
	United Provinces.						
149	Public Works Department ..	..	63	63	574	9	483
150	Forest Department ..	(*a*)	1	1	(*a*)	2	(*a*)
151	Printing Department ..	..	1	1	..	..	..
152	Revenue Department ..	2	..	2	..	..	..
153	Accounts Department ..	..	(*a*)	(*a*)	(*a*)	..	..
154	Judicial Department ..	..	..	..	..	(*a*)	..
155	Police Department ..	..	(*a*)	(*a*)	..	..	..
156	Veterinary Department ..	..	(*a*)	(*a*)	..	..	..
	Adjustment on account of fractions of a thousand ..	..	1	1	1	..	..
	Total United Provinces ..	2	66	68	575	11	483

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	PROVINCIAL—*contd.*						
	Punjab.						
157	Public Works Department (including Sutlej Valley Project)	39	1,776	1,815	1,184	3,460	2,795
158	Public Works Department (Hydro-Electric Branch) ..	1	686	687	452	678	907
159	Agriculture Department ..	2	23	25	24	18	88
160	Veterinary Department ..	2	1	3	2	(*a*)	..
161	Forest Department ..	..	5	5	6	(*a*)	21
162	Police Department ..	29	(*a*)	29	58	37	39
163	Jail Department	588	24	612	507	254	354
164	Printing Department ..	(*a*)	..	(*a*)	..	..	(*a*)
165	Education Department ..	1	5	6	(*a*)	8	(*a*)
166	Industries Department ..	..	(*b*) —3	(*b*) —3	20	161	127
167	Development Department ..	..	..	..	..	..	1
168	Public Health and Sanitary Departments	..	(*a*)	(*a*)	(*a*)	1	(*a*)
169	Punjab Secretariat ..	..	(*a*)	(*a*)	..	..	..
170	Revenue Department ..	..	(*a*)	(*a*)	(*a*)	1	(*a*)
171	Judicial Department ..	..	..	..	..	(*a*)	1
172	Registration Department ..	..	(*a*)	(*a*)	..	..	..
173	Unclassified items ..	..	..	..	..	19	18
	Adjustment on account of fractions of a thousand ..	—1	+1	..	1	—1	..
	Total Punjab ..	661	2,518	3,179	2,254	4,636	4,351

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	PROVINCIAL—*contd.*						
	Bihar and Orissa.						
174	Public Works Department ..	1	73	74	21	43	37
175	Agriculture Department ..	..	1	1	(*a*)	(*a*)	(*a*)
176	Police Department ..	..	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)
177	Jail Department	3	4	7	4	5	9
178	Printing Department ..	(*a*)	(*a*)	(*a*)	4	1	2
179	Industries Department ..	..	..	..	..	(*a*)	10
180	Veterinary Department ..	..	..	..	..	..	(*a*)
181	Education Department ..	..	7	7	1	3	..
	Adjustment on account of fractions of a thousand ..	..	..	..	2	1	2
	Total Bihar and Orissa ..	4	85	89	32	53	60
	Burma.						
182	Public Works Department ..	..	16	16	10	2	11
183	Police Department ..	51	..	51	(*b*) —7	681	21
184	Jail Department	3	..	3	3	3	4
185	Printing Department ..	1	1	2	7	7	6
186	Marine Department ..	..	9	9	..	(*a*)	..
187	Salt Revenue Department ..	..	(*a*)	(*a*)	..	..	..
188	Medical Department ..	..	2	2	..	..	..
	Adjustment on account of fractions of a thousand ..	..	1	1	1	..	..
	Total Burma ..	55	29	84	14	693	42

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year. 1928-29.	1927-28.	1926-27.
	PROVINCIAL—*contd.* *Central Provinces.*						
189	Public Works Department ..	1	166	167	173	101	732
190	Forest Department ..	..	1	1	1	1	(*a*)
191	Jail Department	2	3	5	3	8	4
192	Industries Department ..	(*a*)	5	5	11	6	4
193	Medical Department ..	(*a*)	1	1	1	1	(*a*)
194	Sanitary Department ..	..	..	..	..	..	(*a*)
195	Agriculture Department ..	..	2	2	3	(*a*)	..
196	Revenue Department ..	..	1	1	1	2	1
197	Education Department ..	..	..	..	1	..	..
198	Judicial Department ..	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)
199	Printing Department ..	..	..	..	..	(*a*)	..
200	Police Department ..	..	..	..	3	1	..
201	Central Provinces Secretariat	..	..	..	..	(*a*)	..
202	Co-operative Department ..	..	(*a*)	(*a*)	..	..	..
	Adjustment on account of fractions of a thousand ..	..	..	..	—1	1	2
	Total Central Provinces ..	3	179	182	196	121	743
	Assam.						
203	Public Works Department ..	4	171	175	12	41	8
204	Forest Department ..	1	(*a*)	1	2	1	1
205	Police Department ..	74	2	76	48	79	70
206	Jail Department	10	1	11	9	28	24
207	Printing Department ..	..	(*a*)	(*a*)	..	..	6
208	Education Department ..	..	(*a*)	(*a*)	3	(*a*)	..
209	Industries Department ..	1	13	14	..	..	..
210	Medical Department ..	..	..	..	(*a*)	(*a*)	(*a*)

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	PROVINCIAL—*concld.* *Assam*—concld.						
211	Assam Secretariat ..	..	(a)	(a)	..	..	..
212	Revenue Department ..	..	(a)	(a)	1	1	(a)
213	Political Department ..	(a)	..	(a)	..	..	1
	Adjustment on account of fractions of a thousand ..	1	1	2	—1	1	..
	Total Assam ..	91	188	279	74	151	110
214	Provincial Unclassified items	30	..	30	..	..	..
	Total Provincial ..	1,319	6,123	7,442	8,182	10,690	11,133
	INDIAN STATES.						
215	Jammu and Kashmir ..	..	..	..	..	7	16
216	Jaipur	..	1,419	1,419	165	42	74
217	Mysore	..	..	..	15	13	4
218	Bahawalpur	..	135	135	26	6	..
219	Palanpur	..	..	..	..	(a)	..
220	H. E. H. the Nizam's Government	..	3	3	(a)	2	..
221	Jamkhandi	..	1	1	..	..	..
	Adjustment on account of fractions of a thousand ..	..	1	1	1	..	1
	Total Indian States ..	..	1,559	1,559	207	70	95
	QUASI-PUBLIC BODIES.						
222	City Board, Mussoorie ..	1	14	15	31	3	694
223	City Board, Dehra Dun ..	..	..	..	..	44	4
224	Municipal Committee, Bannu	..	(a)	(a)	(a)	..	(a)
225	Municipal Committee, Simla	4	81	85	62	87	10
226	Municipal Committee, Kurnool	..	1	1	..	..	..

APPENDIX III—*contd.*

Serial No.	Organisation.	Purchases made during 1929-30.			Total for the year		
		Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	1928-29.	1927-28.	1926-27.
	QUASI-PUBLIC BODIES—*concld.*						
227	Municipal Committee, Delhi	..	..	..	(*a*)	5	2
228	Municipal Committee, Trichinopoly	..	1	1	..	..	..
229	Municipal Committee, Karachi	..	22	22	28	..	..
230	Municipal Committee, Sukkur	..	18	18	11	..	..
231	Municipal Committee, Jorhat	..	..	..	..	..	(*a*)
232	Municipal Committee, Mount Abu	(*a*)	(*a*)	(*a*)	..	..	..
233	Municipal Committee, Ootacamund	..	1	1	1	..	..
234	District Board, Muzaffarnagar	..	..	..	..	..	(*a*)
235	District Board, Dera Ismail Khan	..	..	..	..	1	..
236	Port Commissioners, Calcutta	..	..	..	(*a*)	..	19
237	Port Trust, Madras ..	..	7	7	2	2	(*a*)
238	Union Board, Manikganj ..	..	..	..	(*a*)	..	..
239	Lac Research Institute, Ranchi	..	(*a*)	(*a*)	2	..	..
240	Health Association, Calcutta	..	..	..	(*a*)	..	..
241	District Council, Chindwara	..	..	..	(*a*)	..	..
242	District Council, Bhandara	..	(*a*)	(*a*)	..	..	..
243	District Council, Yeotmal ..	..	(*a*)	(*a*)	..	..	..
244	District Council, Balaghat ..	..	(*a*)	(*a*)	..	..	..
245	District Council, Raipur ..	..	(*a*)	(*a*)	..	..	..
246	District Council, Amraoti ..	..	(*a*)	(*a*)	..	..	..
247	Sind Flood Relief Committee	..	2	2	..	..	..
	Adjustment on account of fractions of a thousand ..	1	1	2	..	..	—1
	Total Quasi-public bodies ..	6	148	154	137	142	728

APPENDIX III—*concld.*

Serial No.	Organisation.	Purchases made during 1929-30. Textiles and Leather.	Engineering, Hardware and Miscellaneous stores.	Total for the year.	Total for the year 1928-29.	1927-28.	1926-27.
	British Government.						
248	Royal Airship Base, Karachi	..	8	8	..	..	..
249	Air Ministry Works, Aden ..	..	6	6	..	..	..
	Total British Government ..	..	14	14	..	..	..
	Abstract.						
	Central, Army	4,492	7,400	11,892	13,275	15,611	17,462
	Central, Civil	1,402	5,417	6,819	3,842	3,181	2,922
	Railways, State-worked ..	3,912	9,894	13,806	9,803	6,983	7,062
	Railways, Company-worked	205	1,022	1,227	599	513	475
	Railways, Indian State-worked	..	13	13	3	115	5
	Total Railways	4,117	10,929	15,046	10,405	7,611	7,542
	Provincial Governments ..	1,319	6,123	7,442	8,182	10,690	11,133
	Indian States	..	1,559	1,559	207	70	95
	Quasi-public bodies ..	6	148	154	137	142	728
	British Government ..	..	14	14	..	..	..
	Grand Total ..	11,336	31,590	42,926	36,048	37,305	39,882

APPENDIX IV.

Statement showing the value of the various classes of purchases (indigenous and imported separately) made during the year 1929-30 as compared with three previous years.

(*Vide* paragraph 2 of the report.)

—	1929-30.	1928-29.	1927-28.	1926-27.
	Rs.	Rs.	Rs.	Rs.
I.—*Textiles and Leather.*				
(*a*) Stores purchased in the Indian market—				
(*i*) Cotton—				
Indigenous	56,76,743 (97·4%)	60,62,761 (96·3%)	66,28,109 (96·4%)	85,89,868 (96·9%)
Imported	1,53,252 (2·6%)	2,35,184 (3·7%)	2,45,409 (3·6%)	2,76,677 (3·1%)
(*ii*) Woollen—				
Indigenous	39,09,782 (92·7%)	39,31,597 (99·1%)	36,81,336 (99·5%)	51,68,861 (97·5%)
Imported	3,05,959 (7·3%)	37,148 (0·9%)	19,656 (0·5%)	1,31,379 (2·5%)
(*iii*) Jute, hemp, etc.—				
Indigenous	12,31,202 (97·7%)	12,88,918 (96·6%)	11,56,483 (91·1%)	19,75,785 (94·7%)
Imported	29,144 (2·3%)	45,454 (3·4%)	1,13,179 (8·9%)	1,10,831 (5·3%)
(*iv*) Leather—				
Indigenous	23,506 (86·7%)	17,613 (77·8%)	25,063 (95·5%)	19,370 (62·7%)
Imported	3,595 (13·3%)	5,025 (22·2%)	1,177 (4·5%)	11,509 (37·3%)
(*b*) Imported stores purchased through the Director-General of Stores	..	..	..	..
Total Indigenous ..	1,08,41,233 (95·7%)	1,13,00,889 (97·2%)	1,14,90,991 (96·8%)	1,57,53,884 (96·7%)
Total Imported ..	4,91,950 (4·3%)	3,22,811 (2·8%)	3,79,421 (3·2%)	5,30,396 (3·3%)
Total ..	1,13,33,183	1,16,23,700	1,18,70,412	1,62,84,280
(*c*) Stores purchased from Government Departments ..	3,109	1,273	11,597	2,013
Total textiles and leather ..	1,13,36,292	1,16,24,973	1,18,82,009	1,62,86,293
II.—*Engineering and Miscellaneous Stores.*				
(*a*) Stores purchased in the Indian market	3,15,76,652	2,43,26,784	2,54,18,062	2,31,17,653
(*b*) Stores purchased direct from outside India	..	25,500	..	4,36,101
(*c*) Stores purchased from Government Departments ..	12,757	70,817	4,601	42,198
Total Engineering and Miscellaneous Stores ..	3,15,89,409	2,44,23,101	2,54,22,663	2,35,95,952
GRAND TOTAL ..	4,29,25,701	3,60,48,074	3,73,04,672	3,98,82,245

ds.
101.

929-30.

—Punjab	[illegible]
—Madras	383
—Bengal	3,253
—Bombay	4,409
—United Provinces	21,070

Engores purchased in the market.
Total Rs. 4,29,09,835.

—Kashmir	*Nil.*
—Central Provinces	[illegible]
—Mysore	61,187
—Burma	4,03,108
Delhi	5,88,371
Madras	22,91,114
Punjab	27,36,877
United Provinces	42,88,209
Bombay	1,44,40,089
Bengal	1,73,71,020

APPENDIX V.

Value in Rs. of stores purchased in each Province during the year 1929-30.

(*Vide* paragraph 23 of the Report.)

Cotton materials. Total Rs. 58,29,995.

Central Provinces	*Nil.*
Burma	*Nil.*
Kashmir	*Nil.*
Mysore	*Nil.*
Bihar and Orissa	1,031
Punjab	,192
Delhi	2,23,005
Bengal	6,16,830
Madras	9,09,350
Bombay	12,01,524
United Provinces	27,80,063

Woollen materials. Total Rs. 42,15,741.

Bihar and Orissa	*Nil.*
Central Provinces	*Nil.*
Burma	*Nil.*
Mysore	*Nil.*
Delhi	2,058
Kashmir	1,38,902
Bengal	5,43,239
Punjab	6,52,791
United Provinces	7,46,597
Madras	10,40,313
Bombay	10,91,841

Jute, flax and hemp materials. Total Rs. 12,60,346.

Bihar and Orissa	*Nil.*
Central Provinces	*Nil.*
Burma	*Nil.*
Kashmir	*Nil.*
Mysore	*Nil.*
Madras	630
Punjab	1,590
United Provinces	4,144
Delhi	10,076
Bombay	67,630
Bengal	11,76,276

Leather Goods. Total Rs. 27,101.

Bihar and Orissa	*Nil.*
Burma	*Nil.*
Central Provinces	*Nil.*
Delhi	*Nil.*
Kashmir	*Nil.*
Mysore	*Nil.*
Punjab	—2,014
Madras	383
Bengal	3,253
Bombay	4,409
United Provinces	21,070

Engineering, Hardware & Miscellaneous Stores. Total Rs. 3,15,76,652.

Kashmir	*Nil.*
Central Provinces	61,187
Bihar and Orissa	2,33,323
Madras	3,40,438
Delhi	3,53,232
Mysore	3,56,604
Burma	4,03,108
United Provinces	7,36,335
Punjab	19,86,318
Bombay	1,20,74,685
Bengal	1,50,31,422

Total stores purchased in the market. Total Rs. 4,29,09,835.

Central Provinces	61,187
Kashmir	1,38,902
Bihar and Orissa	2,34,354
Mysore	3,56,604
Burma	4,03,108
Delhi	5,88,371
Madras	22,91,114
Punjab	27,36,877
United Provinces	42,88,209
Bombay	1,44,40,089
Bengal	1,73,71,020

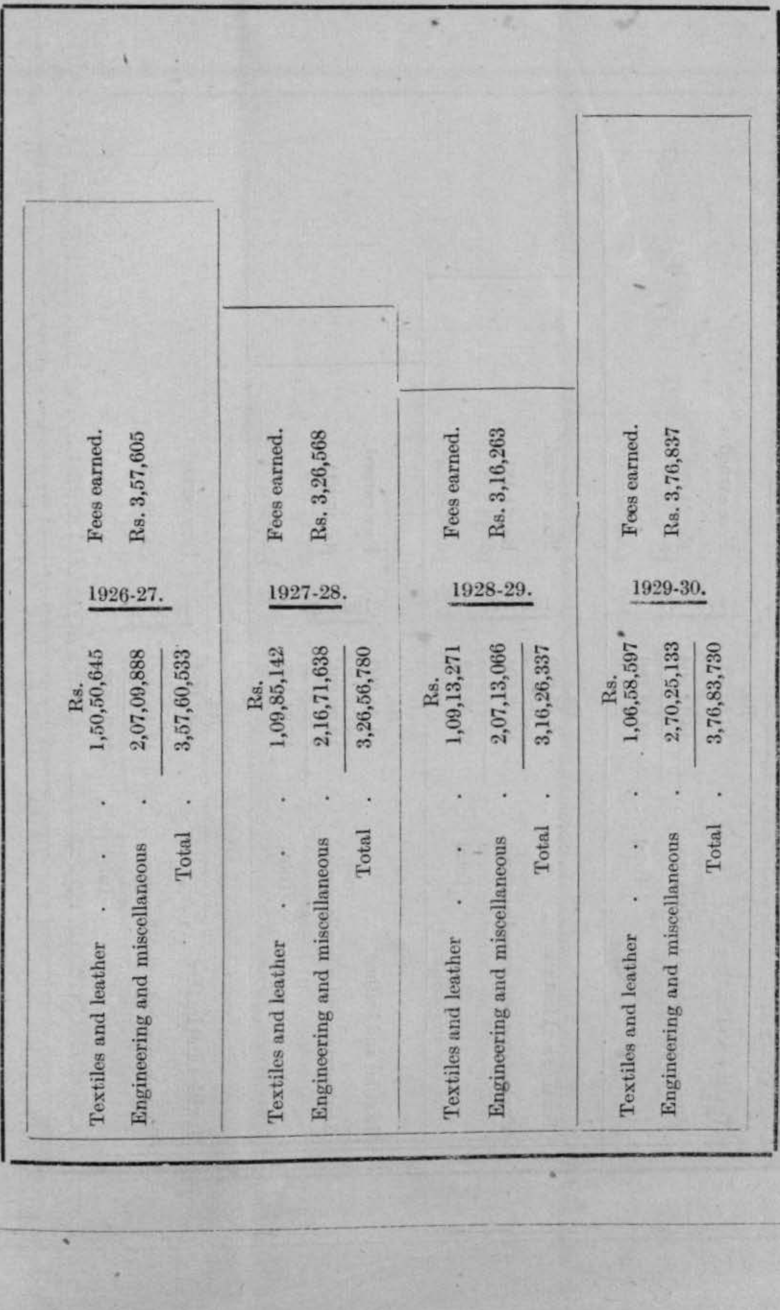
APPENDIX VI.

VALUE OF STORES PURCHASED.

(*i*) HEAD QUARTERS.

(*Vide* paragraph 18 of the Report.)

NOTE.—The diagrams represent the fees earned and not those actually adjusted during the year.



VI—(*ii*) Calcutta Purchase Circle.

(*Vide* paragraph 18 of the Report.)

	Rs.	Year	
Textiles and leather . . .	10,56,285	1926-27	Fees earned.
Engineering and miscellaneous .	14,11,904		Rs. 24,682
Total .	24,68,189		

	Rs.	Year	
Textiles and leather . . .	5,95,629	1927-28	Fees earned.
Engineering and miscellaneous .	15,52,508		Rs. 21,481
Total .	21,48,137		

	Rs.	Year	
Textiles and leather . . .	4,45,860	1928-29	Fees earned.
Engineering and miscellaneous .	13,38,265		Rs. 17,841
Total .	17,84,125		

	Rs.	Year	
Textiles and leather . . .	4,87,072	1929-30	Fees earned.
Engineering and miscellaneous .	17,45,584		Rs. 22,327.
Total .	22,32,656		

NOTE.—The diagrams represent the fees earned and not those actually adjusted during the year.

VI—(*iii*) Bombay Purchase Circle.

(*Vide* paragraph 18 of the Report.)

	Rs.	Year	
Textiles and leather . . .	1,58,507	1926-27.	Fees earned.
Engineering and miscellaneous .	5,84,546		Rs. 7,430.
Total .	7,43,053		

	Rs.	Year	
Textiles and leather . . .	2,61,934	1927-28.	Fees earned.
Engineering and miscellaneous .	8,63,474		Rs. 11,254.
Total .	11,25,408		

	Rs.	Year	
Textiles and leather . . .	1,98,031	1928-29.	Fees earned.
Engineering and miscellaneous .	9,16,673		Rs. 11,147.
Total .	11,14,704		

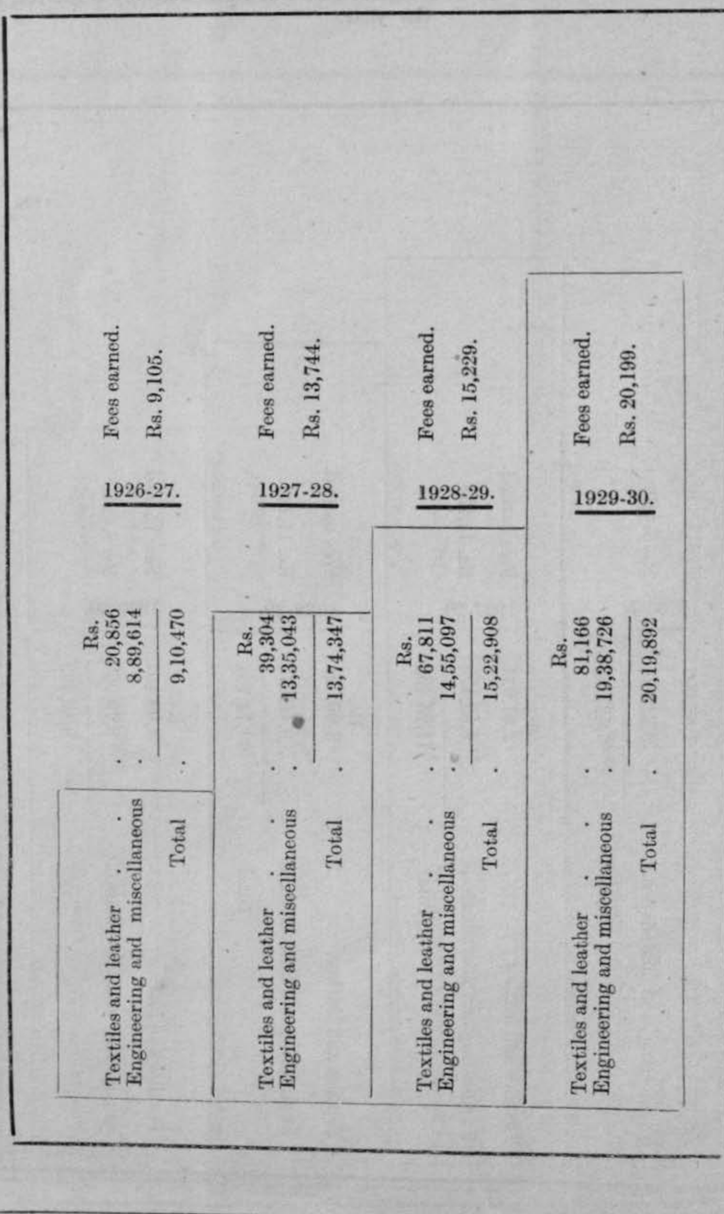
	Rs.	Year	
Textiles and leather . . .	1,09,457	1929-30.	Fees earned.
Engineering and miscellaneous .	8,79,966		Rs. 9,924.
Total .	9,89,423		

Note.—The diagrams represent the fees earned and not those actually adjusted during the year.

VI—(*iv*) KARACHI PURCHASE AGENCY.

(*Vide* paragraph 18 of the Report.)

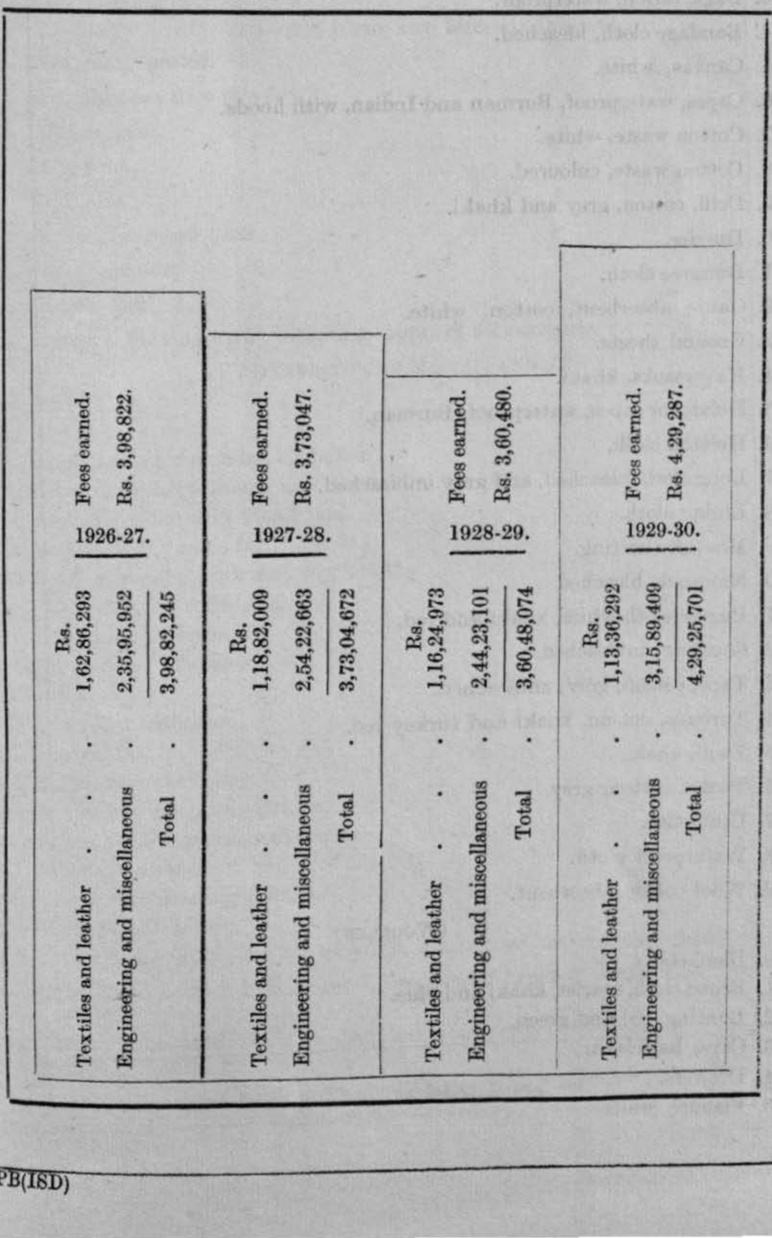
NOTE.—The diagrams represent the fees earned and not those actually adjusted during the year.



VI (*v*)—Abstract.

(*Vide* paragraph 18 of the Report.)

NOTE.—The diagrams represent the fees earned and not those actually adjusted during the year.



APPENDIX VII.

LISTS OF ITEMS OF STORES PURCHASED ON "RATE" AND "RUNNING" CONTRACTS.
(*Vide* paragraph 28 of the Report.)

A.—Items of stores for which "Rate" and "Running" contracts were entered into by the Headquarters office during the year 1929-30.

(COTTON).

1. Bags, kit, waterproof.
2. Bags, nose.
3. Bags, ration, waterproof.
4. Bandage cloth, bleached.
5. Canvas, white.
6. Capes, waterproof, Burman and Indian, with hoods.
7. Cotton waste, white.
8. Cotton waste, coloured.
9. Drill, cotton, grey and khaki.
10. Durries.
11. Dungree cloth.
12. Gauze absorbent, cotton, white.
13. Ground sheets.
14. Haversacks, khaki.
15. Hoods for capes, waterproof, Burman.
16. Holland cloth.
17. Long cloth, bleached, and grey unbleached.
18. Lining cloth.
19. Mosquito netting.
20. Nainsook, bleached.
21. Pugree cloth white, khaki and red.
22. Sheeting, unbleached.
23. Tape, cotton, grey, unbleached.
24. Turbans, cot on, khaki and turkey red.
25. Twill, khaki.
26. Twine, cotton, grey.
27. Umbrellas.
28. Waterproof cloth.
29. Wool cotton absorbent.

(WOOLLEN).

30. Blankets.
31. Broad cloth, scarlet, khaki and blue.
32. Bunting, red and green.
33. Caps, balaclava.
34. Drawers.
35. Flannel, white.

A.—Items of stores for which " Rate " and " Running " contracts were entered into by the Headquarters office during the year 1929-30.

(WOOLLEN)—*concld.*

36. Jackets, cardigan.
37. Overcoats of blanketting cloth with and without cape.
38. Serge, white, khaki and blue.
39. Socks, blue grey.
40. Twill cloth of colours.
41. Wool, packing.

(JUTE, HEMP AND MISCELLANEOUS).

42. Bags, mail, postal.
43. Bags planters, flax proofed.
44. Buttons, gold.
45. Lace, gold.
46. Neck gear.
47. Paulins, jute and flax.
48. Ropes, manilla.
49. Tassels, gold.
50. Uniforms, making up of, including supply of all garments.

(ENGINEERING AND MISCELLANEOUS).

51. Acids.
52. Alumina Ferric.
53. Angle pieces for wooden kit boxes.
54. Asbestos cement sheets and accessories.
55. Asphalts, pitch and Road tars.
56. Badges, arm, brass, for P. W. D.
57. Bearing metals, high and low grades.
58. Bells, electric, trembling.
59. Bitumastic solutions
60. Bituminous solutions.
61. Black Japan.
62. Boards, distribution.
63. Boards, fuse.
64. Bones, cuttlefish, dry.
65. Boxes, kit, steel, sea-service.
66. Boxes, tin, for postage stamps.
67. Brushes, banister.
68. Brushes for cleaning stamps.
69. Buttons, gilt, brass.
70. Cables flame proof and fire resisting, single core, 600 megohm grade.
71. Cables, vulcanized India rubber, insulated, braided, single core, 600 megohm grade.
72. Cables, vulcanized India rubber, insulated, cab tyre sheathed, single and twin cores, 600 megohm grade.
73. Cables, vulcanized India rubber, insulated, lead sheathed, single and twin cores 600 megohm grade.

A.—Items of stores for which "Rate" and "Running" contracts were entered into by the Headquarters office during the year 1929-30.

(ENGINEERING AND MISCELLANEOUS)—*contd.*

74. Candles, carriage.
75. Ceiling roses.
76. Cells, caustic soda, Edison type, 500 amp.
77. Cells, dry, inert, Siemens Bros. Nos. 55 and 60.
78. Cement.
79. Cleats, porcelain.
80. Conductors, copper, bare, solid, hard drawn.
81. Conduit pipes and fittings of sizes.
82. Cooking ranges.
83. Cords, flexible, twin core, cotton and silk braided.
84. Cords, flexible, twin core, workshop finish.
85. Cords, flexible, two and three core, cab-tyre sheathed.
86. Creosote.
87. Cut outs.
88. Disinfectants.
89. Enamels.
90. Fans, electric, ceiling, A. C. and D. C.
91. Fans, electric, table, A. C. and D. C.
92. Fuses, iron clad, single pole.
93. Gold leaf.
94. Graphite, country, suitable for foundry work, with both iron and brass castings.
95. Greases.
96. Handcuffs.
97. Insulating materials :—
    (*a*) Compound tropical high melting.
    (*b*) Indian rubber strips, pure para.
    (*c*) Ruby mica.
    (*d*) Tape, cotton, Egyptian, of sizes.
    (*e*) Tape, adhesive, black.
98. Lamp brackets.
99. Lamp holders.
100. Lamps, electric, automobile.
101. Lamps, electric, carbon filament.
102. Lamps, electric, metal filament, gas filled type.
103. Lamps, electric, metal filament, gas filled type, train lighting.
104. Lamps, electric, metal filament, vacuum type.
105. Lamps, electric, metal filament, vacuum type, train lighting.
106. Leather reviver.
107. Liquid chlorine.
108. Liquid driers.
109. Liquid wood filler.
110. Locks, ordinary, Sparling patent and brass label for attaching keys.

A.—Items of stores for which "Rate" and "Running" contracts were entered into by the Headquarters office during the year 1929-30.

(ENGINEERING AND MISCELLANEOUS)—*contd.*

111. Metal polish.

112. Meters, electric, house service, alternating current, watt hour.

113. Meters, electric, house service, direct current, ampere hour.

114. Meters, water, Glenfields Rotary.

115. Meters, water, Siemens, patent.

116. Modules, Crumps, adjustable, proportional.

117. Motor cars, trucks and truck bodies, etc.

118. Oil, axle, all weather.

119. Oil, batching

120. Oil, castor.

121. Oil, cleaning, special.

122. Oil, cutting.

123. Oil, fuel.

124. Oil, gas making.

125. Oil, kerosene, Chester Brand.

126. Oil, kerosene, Elephant Brand.

127. Oil, kerosene, Snowflake Brand.

128. Oil, kerosene, Swan and/or Victoria Brand.

129. Oil, linseed, double boiled.

130. Oil, linseed, raw.

131. Oil, lubricating, air compressor, light and medium.

132. Oil, lubricating, common, dark.

133. Oil, lubricating, crank chamber, all grades.

134. Oil, lubricating, cylinder, common.

135. Oil, lubricating, cylinder, compounded, ordinary.

136. Oil, lubricating, cylinder, compounded, filtered.

137. Oil, lubricating, cylinder, ordinary and superheat.

138. Oil, lubricating, cylinder, pure, mineral, filtered.

139. Oil, lubricating, dark, extra heavy, for gears and running machinery.

140. Oil, lubricating, dark for side rod big end bearings, jack shaft bearings and axle boxes of electric locomotives.

141. Oil, lubricating, engines, all grades.

142. Oil, lubricating, for main motor bearings, and axle generator bearings of electric locomotives.

143. Oil, lubricating, heavy, for gears of electric locomotives.

144. Oil, lubricating, internal combustion engines, all grades.

145. Oil, lubricating, machinery, all grades.

146. Oil, lubricating, main motor armature and suspension bearings.

147. Oil, lubricating, non-freezing, light.

148. Oil, lubricating, spindle, extra light.

149. Oil, lubricating, spindle, for electric dynamos and motors.

150. Oil, mineral, colza.

1. Oil, transformer.

A.—Items of stores for which " Rate " and " Running " contracts were entered into by the Headquarters office during the year 1929-30.

(ENGINEERING AND MISCELLANEOUS)—*contd.*

152. Paint remover.

153. Paints, stiff and ready mixed and dry pigments.

154. Paste driers.

155. Petrol.

156. Pipes and fittings, cast iron.

157. Pipes and fittings, galvanized iron (water and gas qualities).

158. Pipes and fittings, mild steel (steam quality).

159. Pipes and fittings, stoneware.

160. Plugs, wall, and sockets.

161. Poles, steel, tabular, Mannesmann type.

162. Polish, French.

163. Powder, filling up.

164. Pumice powder.

165. Pumice rubbing blocks.

166. Pumice stone.

167. Safes, high quality, burglar and fire-proof.

168. Seals, lead, for closing mail bags.

169. Shades carriers.

170. Shades enamelled iron, and white, conic, opal.

171. Shades, vellum, for tables standards.

172. Shellac.

173. Sign boards, enamelled.

174. Sleepers, sal and deodar.

175. Sluice valves, water.

176. Soap, hard.

177. Soap, soft.

178. Spare parts for Canadian Ford Models " T " and " TT ", A, AA and AAC and Thornycroft Type AA.

179. Spearheads with brass bells.

180. Spirits, denatured, methylated.

181. Standards, table, electric.

182. Steel sections.

183. Steel, strapping ' signode '.

184. Sulphate of alumina.

185. Switches, tumbler, single and double pole.

186. Switches with fuses, iron clad, double pole.

187. Tallow.

188. Tar, coal, for painting purposes.

189. Target apparatus.

190. Timber for packing cases.

191. Trays, tin.

192. Turpentine, genuine.

193. Turpentine, substitute.

A.—Items of stores for which "Rate" and "Running" contracts were entered into by the Headquarters office during the year 1929-30.

(ENGINEERING AND MISCELLANEOUS)—*concld.*

194. Tyres and tubes for bicycles.
195. Varnishes.
196. Vaseline, pure.
197. Wire gauze, brass, rustless.
198. Wires, cotton, double cotton, single cotton and double silk covered.
199. Wood preservative.

B.—Contracts entered into by the Controller of Purchase, Calcutta Circle.

(TEXTILE STORES.)

1. Bags, gunny.
2. Canvas, brown.
3. Canvas, cotton, green.
4. Canvas, cotton, white.
5. Canvas, jute.
6. Caps, uniform.
7. Cloth, drill, white, bleached.
8. Cloth, hessian.
9. Cloth, map-mounting.
10. Cloth, painting.
11. Cloth, poplin, green.
12. Dusters.
13. Hats, Gurkha.
14. Helmets, Wolsley.
15. Line, fish.
16. Line, log.
17. Paulins, flax, canvas.
18. Thread, sewing, linen, white.
19. Twine, hemp.
20. Twine, jute.

(ENGINEERING AND MISCELLANEOUS STORES.)

21. Belting.
22. Bolts.
23. Brooms, cocoanut.
24. Chain, iron, short link.
25. Clips, Henley.
26. Clocks.
27. Fasteners, belt.
28. Fittings, water, brass and gun metal.
29. Flour, fine.

B.—Contracts entered into by the Controller of Purchase, Calcutta Circle.

(ENGINEERING AND MISCELLANEOUS STORES)—*concld.*

30. Handles, hickory.
31. Lamps, table.
32. Lamps, wall.
33. Lanterns, hurricane.
34. Nails, wire, iron.
35. Nuts.
36. Oil, castor.
37. Plugs, Rawl.
38. Rivets.
39. Screws, iron.
40. Shellac.
41. Soap.
42. Time-pieces.

C.—Contracts entered into by the Controller of Purchase, Bombay Circle.

1. Bolts and nuts.
2. Brushes, varnish.
3. Nails, wire.
4. Napthaline balls.
5. Paper, glass and emery.
6. Paper, toilet.
7. Pins, split, cotter, mild steel.
8. Screws, brass and iron.
9. Steam and water fittings.

D.—Contracts entered into by the Controller of Purchase, Karachi Agency.

1. Acid, sulphuric, hydrochloric, nitric.
2. Asbestos, boiler door joints.
3. Bolts and nuts, black.
4. Brushes, paint.
5. Blades, hacksaw.
6. Bolts, tower, iron and brass.
7. Cups, grease.
8. Crucibles, Foundry, Morgan.
9. Carbide, calcium.
10. Cocks, brass, bib.
11. Cocks, stop, G. I.
12. Clamps, U bolts.
13. Emery cloth.
14. Files

D.—Contracts entered into by the Controller of Purchase, Karachi Agency,—concld.

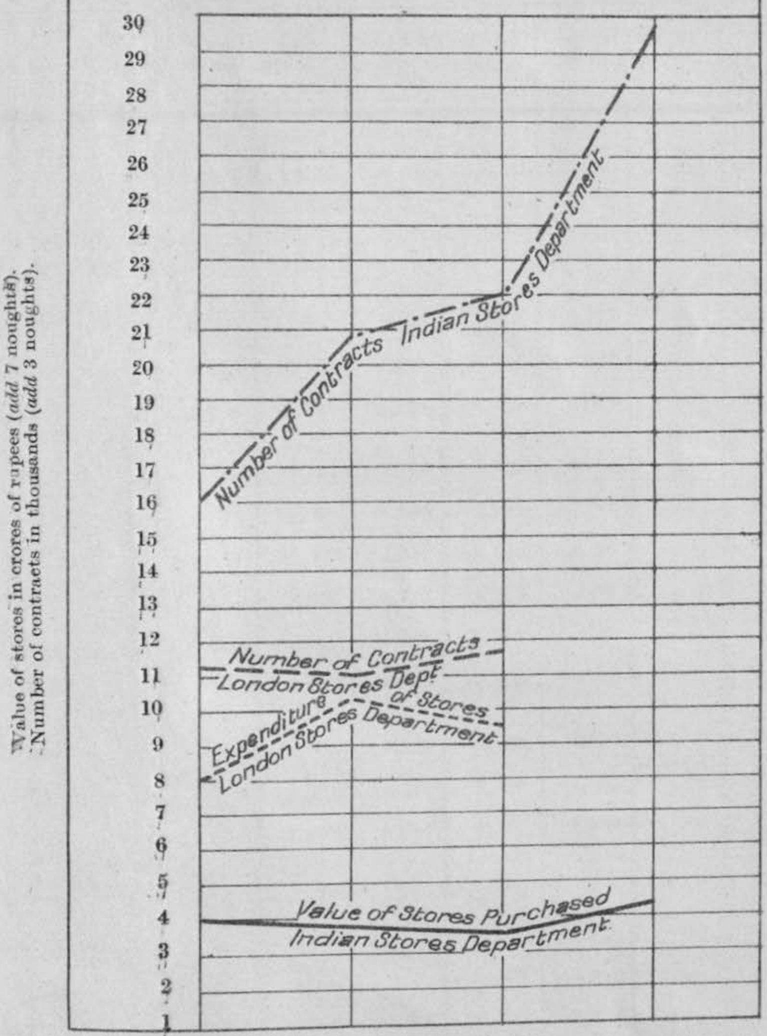
15. Hinges, brass & W. I.
16. Nails, wire, iron.
17. Panes of glass, plain and frosted.
18. Polish, metal.
19. Rivets, M. S.
20. Screws, wood, iron and brass.
21. Shackles.
22. Soda ash and soda caustic.
23. Spanners, single and double ended.
24. Tubes, copper.
25. Thimbles, G. I.
26. Valves, wheel, G. M.

APPENDIX VIII.

VALUE OF STORES PURCHASED AND NUMBER OF CONTRACTS PLACED BY THE LONDON AND INDIAN STORES DEPARTMENTS.

(*Vide* paragraph 29 of the report).

The London Stores Department figures represent expenditure on stores and freight converted into Indian currency at a uniform rate of 1s. 6d. to the rupee. The Indian Stores Department figures represent the value of contracts placed.



	1926-27	1927-28	1928-29	1929-30
No. of contracts.				
London Store Department	11,126	10,862	11,654	—
Indian Stores Department	16,027	20,753	21,922	29,767
Value in thousands of Rupees.				
London Store Department	80,143	1,02,930	94,887	—
Indian Stores Department	39,882	37,305	36,948	42,926

APPENDIX IX.

Comparative Statement of Purchases made by the London and Indian Stores Departments.

THE FIGURES ARE IN THOUSANDS OF RUPEES.

(*Vide* paragraph 29 of the Report.)

Indenting Departments.	Textile and leather stores.		Engineering and Miscellaneous Stores.		Other classes of Stores (*a*).		Total.	
	London Stores Depart-ment.	Indian Stores Depart-ment.	London Stores Depart-ment.	Indian Stores Depart-ment.	London Stores Depart-ment.	Indian Stores Depart-ment.	London Stores Depart-ment.	Indian Stores Depart-ment.
1. Central Departments-Army—								
1926-27 ..	9,089	11,633	9,409	5,829	3,413	..	21,911	17,462
1927-28 ..	3,793	6,587	15,255	9,024	8,663	..	27,711	15,611
1928-29 ..	3,794	6,975	18,694	6,300	7,397	..	29,885	13,275
2. Central Departments-Civil—								
1926-27 ..	38	1,177	3,790	1,745	4,782	..	8,610	2,922
1927-28 ..	38	1,097	1,940	2,084	5,745	..	7,723	3,181
1928-29 ..	27	1,607	4,317	2,235	3,192	..	7,536	3,842
3. Railways—								
1926-27 ..	511	2,663	90,729	4,879	257	..	91,497	7,542
1927-28 ..	359	2,855	31,389	4,755	146	..	31,894	7,610
1928-29 ..	104	2,045	41,986	8,360	136	..	42,226	10,405
4. Provincial Governments—								
1926-27 ..	70	795	5,823	10,338	1,514	..	7,407	11,133
1927-28 ..	78	1,331	8,290	9,359	1,462	..	9,830	10,690
1928-29 ..	138	998	4,635	7,184	1,333	..	6,106	8,182
5. Indian States and Public bodies—								
1926-27 ..	..	18	..	805	..	..	..	823
1927-28 ..	..	12	..	200	..	..	..	212
1928-29 ..	..	(*b*)	..	137	..	..	..	137
6. Total—								
1926-27 ..	9,708	16,286	1,09,751	23,596	9,966	..	1,29,425	39,882
1927-28 ..	4,268	11,882	56,874	25,422	16,016	..	77,158	37,304
1928-29 ..	4,063	11,625	69,632	24,423	12,058	..	85,753	36,048

N.B.—The figures of the India Store Department, London, have been converted at the rate of 1*s.* 6*d.* = Re. 1.

(*a*) Stores not dealt with by the Indian Stores Department, *e.g.*, medical stores, munitions, stationery and printing, stamps, currency, food stuffs, etc.

(*b*) Items below Rupees one thousand in value.

APPENDIX X.

List of specifications framed by the Indian Stores Department current at the end of the year 1929-30.

(*Vide* paragraph 32 of the Report.)

INDEX.

Section No.	Name of stores. Main head.	Name of stores. Sub-head.	Classification reference.
1	Bridgework	..	A.
2	Engineers' plant (excluding petty tools)	..	B.
3	Workshop machinery and heavy tools	..	C.
4	Ballast and permanent-way materials ..	..	D.
5	Rolling stock	..	E.
6	Station materials and fencing	..	F.
7	Tools and stores.. ..	(*a*) Tools	G/Tools.
		(*b*) Stores—	
		(*i*) Hardware; copper, tin and zinc ware	G/Ware.
		(*ii*) Lamps and lamp fittings	G/Lamps.
		(*iii*) Leather and India rubber goods ..	G/Leather.
		(*iv*) Metals	G/Metals.
		(*v*) Painters' stores (oils and paints) ..	G/O. P.
		(*vi*) Timber	G/Timber.
		(*vii*) Fuel	G/Fuel.
		(*viii*) Furniture ..	G/Furniture.
		(*ix*) Cloth, clothing and equipment ..	G/Textiles.

APPENDIX X—*contd.*

List of specifications framed by the Indian Stores Department current at the end of the year 1929-30.

Section No.	Name of stores. Main head.	Name of stores. Sub-head.	Classification reference.
		(*x*) Miscellaneous ..	G/Miscellaneous.
		(*xi*) Stationery ..	G/Stationery.
		(*xii*) Drawing, mathematical and surveying instruments ..	G/Instruments.
		(*xiii*) Printing presses and materials ..	G/Prints.
		(*xiv*) Sanitary stores ..	G/Sanitary.
		(*xv*) Waterworks stores	G/W. W.
		(*xvi*) Building materials	G/Buildings.
		(*xvii*) Chemicals ..	G/Chemicals.
8	Electrical plant and materials	..	H.
9	Power and industrial plant	..	P. I.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 1.—*Bridgework*—A.	
A-33	Steelwork	A-33H.
A-34	Steel sheet piling with clutch (joist pattern)..	A-34A.
A-35	Structural steel, plates, sections, *e.g.*, angles, tees, joists, channels, etc., and bars ..	A-35J.
A-40	Bridgework	A-40D.
A-48	Tank and staging	A-48A.
A-49	Steel welded tanks with staging welded or rivetted	A-49 (*a*).
	SECTION 2.—*Engineer's plant (excluding petty tools)*—B.	
B-45	Vertical boiler	B-45A (*c*).
B-50	Loco multitubular boiler	B-50C (*c*).
B-51	5-ton portable hand operated crane for 5′-6″ gauge railway track	B-51.
B-52	Scotch hand derrick crane, constructed of steel	B-52.
B-53	Hand operated overhead travelling and traversing crane	B-53A.
	SECTION 3.—*Workshop machinery and heavy tools*—C.	
C-29	Machine tools, first class	C-29
C-31	Machine tools	C-31.
	SECTION 4.—*Ballast and permanent-way Materials*—D.	
D-1	Steelwork for light railway track for construction work	D-1C.
D-2	Tip trucks for 1′-6″ and 2′-6″ gauge railway, contractor's type	D-2C.
D-6	Built-up points and crossings complete with wing rails, lever boxes and all other fittings	D-6.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 4.—*Ballast and permanent-way materials*—D—contd.	
D-15	Steel fishbolts and nuts	D-15.
D-16	Steel dogspikes	D-16.
D-17	Steel round spikes for rail chairs	D-17.
D-18	Steel screw spikes for permanent-way ..	D-18.
	SECTION 5.—*Rolling stock*—E.	
E-28	Weighbridge	E-28.
E-29	Engine turntable	E-29A.
E-32	Steam locomotive crane	E-32.
E-37	Laminated springs	E-37B.
E-38	Cast steel wheels with axles for 2′-6″ gauge ..	E-38.
E-42	Mild steel rivets	E-42D.
E-47	Mild steel bolts, nuts and washers, black and galvanized	E-47B.
E-48	Cast steel wheels and axles for light tip trucks and unimportant works	E-48.
E-49	Cast iron superheater headers for locomotives for Railways	E-49.
E-50	Steel tyres for locomotives, tenders, carriages and wagons	E-50.
E-53	Axle boxes, cast steel, for railway stock ..	E-53.
	SECTION 7.—*Tools and Stores.*	
	(*a*) *Tools*—G/Tools.	
G/Tools-1 ..	Tools for earthwork, etc. (picks and beaters, kodalies, powrahs, mamooties or hoes, sledge and other hammers, jumper and drill steel)	G/Tools-1.
„ 2 ..	Anvils	„ 2.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 7.—*Tools and Stores*—contd.	
	(*b*) *Stores.*	
	(*i*) *Hardware, copper, tin and zinc-ware*—G/Ware.	
G/Ware-30 ..	Wire, ordinary steel, black and galvanised ..	G/Ware-30B (*c*).
,, 31 ..	Hoops, iron and steel	,, 31A.
,, 32 ..	Wire barbed	,, 32A (*c*).
,, 33 ..	Wire, ordinary, steel, round either black or galvanized, for making mattress cases for boulder filling for flood protection or similar work	,, 33.
,, 35 ..	Brass wire gauze, mosquito proof	,, 35 (*a*).
	(*ii*) *Lamps and lamp fittings*—G/Lamps.	
G/Lamps-1 ..	Dark lanterns, dafadars	G/Lamps-1.
	(*iii*) *Leather and India rubber goods*—G/Leather.	
G/L-38	Vacuum brake rubber fittings for use on railways.	G/L-38.
,, 39	Solid tyres for cycles	,, 39A.
,, 40	Solid tyres and tyre bands for tractors, lorries, etc.	,, 40C.
,, 41	Pneumatic tyres, outer covers and inner tubes for cycles, cars and motor cycles, etc. ..	,, 41D.
,, 42	Pneumatic tyres, outer covers and inner tubes for cycles	,, 42A.
,, 43	Leather buffalo and cow, and sheep skin ..	,, 43.
,, 44	Waist belt, leather, for the Public Works Department, Punjab	,, 44.
,, 45	Meshas	,, 45.
,, 46	Leather belting	,, 46.
,, 47	Boots ankle (followers)	,, 47 (*a*).

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(iii) Leather and Indian Rubber goods—G/Leather—contd.	
G/L-48	Boots, ammunition, No. 5 quality	G/L-48 (*a*).
„ 49	R. M. S. Portfolio (G. Pattern)	„ 49 (*a*).
„ 50	Portfolio with lock for supervising officers (for Posts and Telegraphs Department)	„ 50 (*a*).
„ 51	R. M. S. Leather portfolio fitted with compartments for stamps, seals, etc. ..	„ 51 (*a*).
	(iv) Metals—G/Metals.	
G/Metals-9 ..	Manganese steel castings	G/Metals-9.
„ 16 ..	Mild steel rods for ferro-concrete work ..	„ 16C.
„ 17 ..	Case hardening and welding quality steel bars and billets	„ 17.
„ 21 ..	Short link chains (iron welded) for all services except marine	„ 21B.
„ 40 ..	Tinned plates	„ 40A.
„ 41 ..	Sheets, galvanized steel, flat or corrugated ..	„ 41D (*c*).
„ 42 ..	Sheets, plain galvanized iron	„ 42.
„ 45 ..	Sheets, milled lead	„ 45A.
„ 46 ..	Pig lead	„ 46.
„ 51 ..	Small ropes or cords of steel wire	„ 51.
„ 52 ..	Copper alloy for carriage and wagon axle-box brasses	„ 52.
„ 53 ..	Solder, soft	„ 53A.
„ 54 ..	Tin sticks for tinning cooking pots and for similar purposes	„ 54A.
„ 55 ..	Tin in ingots	„ 55.
„ 56 ..	Copper in ingots	„ 56.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(iv) *Metals*—G/Metals—contd.	
G/Metals-57 ..	Antifriction metal for locomotive, carriage and wagon purposes	G/Metals-57A.
" 58 ..	Copper sheets, annealed for spinning or cold working	" 58A.
" 59 ..	Brass sheets, annealed for spinning or cold working	" 59A (c).
" 60 ..	Zinc sheets	" 60.
" 61 ..	Bearing metal for axle of railway rolling stocks	" 61.
" 62 ..	Solder brazing	" 62.
" 63 ..	Solder silver	" 63.
" 67 ..	Balls and rollers, steel and ball and roller bearings	" 67.
" 68 ..	Brass bars for screwing and machining ..	" 68.
" 69 ..	High tensile brass bars and sections, grade 'B' 35 tons per sq. in. quality	" 69.
" 70 ..	High tensile brass bars and sections, grade 'A' 30 tons per sq. in. quality	" 70.
" 71 ..	Antimony ingots	" 71A (c).
" 72 ..	Mild steel sheets for the Telegraph Department	" 72 (a).
	(v) *Painter's Stores*—G/O. P.	
G O. P.-1 ..	Castor seed	G/O. P.-1.
" 3 ..	Shellac	" 3B (c).
" 4 ..	Spirits, denatured, methylated	" 4A (c).
, 13 ..	Oil, aircraft, medium	" 13.
" 14 ..	Oil, aircraft, heavy	" 14.
, 20 ..	Oil, lubricating, axle for use during hot weather	" 20A.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(v) *Painter's Stores*—G/O. P.—contd.	
G/O. P.-21 ..	Oil, lubricating, axle for use during cold weather	G/O. P.-21A.
" 31 ..	Olive oil	" 31 (a).
" 32 ..	Oil Neat's-foot	" 32 (a).
" 33 ..	Creosote	" 33A.
" 38 ..	Petrol, aviation	" 38.
" 60 ..	Soap, hard	" 60B (c).
" 61 ..	Soa p, soft	" 61B (c).
" 64 ..	Road tar, tar coal for road making ..	" 64.
" 65 ..	Crude tar	" 65.
" 66 ..	Pitch coal tar, medium	" 66.
" 67 ..	Wood tar	" 67A.
" 68 ..	Oxidised (blown) petroleum bitumen ..	" 68 (a).
" 69 ..	Steam refined petroleum bitumen	" 69 (a).
" 95-106 ..	Paints and painter's materials	" 95-106.
" 107 ..	Paints and painter's materials	" 107A.
" 108-125 ..	Paints and painter's materials	" 108-125.
" 126 ..	Paints and painter's materials	" 126B.
" 127-136 ..	Paints and painter's materials	" 127-136.
" 137 ..	Paints and painter's materials	" 137A.
" 138-146 ..	Paints and painter's materials	" 138-146.
" 147 ..	Paints and painter's materials	" 147A.
" 148-151 ..	Paints and painter's materials	" 148-151.
" 157 ..	Goldsize	" 157(a).

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(*v*) *Painter's Stores*—G/O. P.—contd.	
G/O.P. 161 ..	Paint grey readymixed suitable for Bitumen roofing	G/O.P. 161 (*a*).
,, 201 ..	Oil, spindle, extra light	,, 201.
,, 202 ..	Oil, spindle, light	,, 202.
,, 203 ..	Oil, spindle	,, 203.
,, 204 ..	Oil, machinery, light	,, 204.
,, 205 ..	Oil, machinery, medium	,, 205.
,, 206 ..	Oil, engine, light	,, 206.
,, 207 ..	Oil, engine, medium	,, 207.
,, 208 ..	Oil, engine, heavy	,, 208.
,, 211 ..	Oil, internal combustion engine, light ..	,, 211.
,, 212 ..	Oil, internal combustion engine, medium ..	,, 212.
,, 213 ..	Oil, internal combustion engine, heavy ..	,, 213.
,, 214 ..	Oil, internal combustion engine, extra heavy	,, 214.
,, 221 ..	Oil, crank chamber	,, 221.
,, 222 ..	Oil, crank chamber, heavy	,, 222.
,, 231 ..	Oil, compressor, light	,, 231.
,, 232 ..	Oil, compressor, medium	,, 232.
,, 233 ..	Oil, compressor, heavy	,, 233.
,, 241 ..	Oil, cylinder, common	,, 241.
,, 242 ..	Oil, cylinder, pure mineral, ordinary ..	,, 242.
,, 243 ..	Oil, cylinder, pure mineral, superheat ..	,, 243.
,, 244 ..	Oil, cylinder, compounded, ordinary ..	,, 244.
,, 245 ..	Oil, cylinder, compounded, superheat ..	,, 245.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description	Current edition.
	(*v*) *Painter's Stores*—G/O. P.—contd.	
G/O.P. 246 ..	Oil, cylinder, compounded, filtered	G/O.P. 246.
" 247 ..	Oil, cylinder, pure mineral, filtered	" 247.
" 251 ..	Oil, non-freezing, extra light	" 251.
" 252 ..	Oil, non-freezing, light	" 252.
" 253 ..	Oil, common, dark	" 253.
" 254 ..	Oil, axle	" 254.
" 255 ..	Oil, lubricating, common dark, extra heavy for gears and running parts of machinery, etc.	" 255 (*a*).
" 261 ..	Petrol	" 261.
" 262 ..	Oil, kerosene, 1st quality	" 262.
" 263 ..	Oil, kerosene, 2nd quality	" 263.
" 264 ..	Oil, kerosene, 3rd quality	" 264.
" 265 ..	Oil, fuel, 1st quality	" 265.
" 266 ..	Oil, fuel, 2nd quality	" 266.
" 267 ..	Oil, mineral, colza	" 267.
" 271 ..	Oil, transformer	" 271.
" 272 ..	Oil, switch	" 272.
" 273 ..	Oil, sealing	" 273.
" 281 ..	Oil, castor	" 281.
" 282 ..	Oil, cocoanut	" 282.
" 283 ..	Oil, mustard (rape)	" 283.
" 284 ..	Tallow	" 284.
" 291 ..	Grease, cup	" 291.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(v) *Painter's Stores*—G/O. P.—concld.	
G/O.P. 292 ..	Grease, graphite	G/O.P. 292.
„ 293 ..	Mineral Jelly	„ 293.
	(vi) *Timber*—G/Timber.	
G/Timber 30 ..	Deodar sleepers	G/Timber 30A.
„ 34 ..	Teak squares	„ 34A.
„ 35 ..	Teak scantlings	„ 35.
	(ix) *Cloth, clothing and equipment*—G/Textiles.	
G/Tex./C-1 ..	Twine, cotton 5/10*s*.	G/Tex./C-1.
„ 4 ..	Canvas, cotton, brown	„ 4.
„ 5 ..	Gauze, absorbent cotton, white, bleached ..	„ 5A.
„ 6 ..	Bag, boy messenger's	„ 6.
„ 7 ..	Sheets, ground	„ 7.
„ 8 ..	Paulins, cotton	„ 8.
„ 9 ..	Durries, blue striped	„ 9.
„ 10 ..	Bags, kit	„ 10.
„ 11 ..	Bags, ration, waterproof	„ 11.
„ 12 ..	Haversack	„ 12B (*c*).
„ 13 ..	Capes, waterproof, Indian, with hood ..	„ 13.
„ 14 ..	Capes, waterproof, Burman	„ 14.
„ 15 ..	Newar, grey	„ 15.
„ 16 ..	Putties, cotton of different shades	„ 16B.
„ 17 ..	Capes, with hoods waterproof for the Postal Department	„ 17B.
„ 18 ..	Cotton wool for bandages for Medical Department	„ 18.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(*ix*) *Cloth, clothing and equipment*—G/Textiles—contd.	
G/Tex./C-19 ..	Long cloth, bleached, for the Medical Department	G/Tex./C-19.
" 21 ..	Bags, dosooti, postal, for Indian Postal Department	" 21B.
" 23 ..	Drill, cotton, grey	" 23B (*c*).
" 24 ..	Cotton, yarn, grey	" 24B (*c*).
" 28 ..	Dusters (third class)	" 28A.
" 30 ..	Sheeting, unbleached	" 30B (*c*).
" 31 ..	Haversack, khaki, cotton drill with side cussets	" 31B (*c*).
" 33 ..	Thread, cotton, sewing, of various sizes and colours	" 33B.
" 34 ..	Muslin, bleached	" 34.
" 35 ..	Long cloth, unbleached for bandages ..	" 35C (*c*).
" 36 ..	Bandage cloth, bleached	" 36C (*c*).
" 37 ..	Alpaca cloth, black	" 37.
" 39 ..	Paramatta cloth, black	" 39A.
" 40 ..	Twill, khaki	" 40B (*c*).
" 41 ..	Dhoti cloth, grey	" 41B (*c*).
" 42 ..	Jean cotton, bleached	" 42.
" 43 ..	Lining cloth	" 43C.
" 44 ..	Pugri cloth, cotton, khaki	" 44B (*c*).
" 45 ..	Canvas, cotton, khaki, proofed for hoods ..	" 45B (*c*),
" 46 ..	Durries, ordinary quality	" 46.
" 47 ..	Mosquito netting 72″ wide	" 47.
" 48 ..	Jaconet cloth, grey	" 48 (*a*)

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition
	(*ix*) *Cloth clothing and equipment*—G/Textiles—contd.	
G/Tex./C-49 ..	Waste, cotton, white No. 1A.	G/Tex./C-49C (*c*).
„ 50 ..	Waste, cotton, white No. 1B	„ 50.
„ 51 ..	Waste, cotton, coloured No. 2	„ 51A (*c*).
„ 52 ..	Waste, cotton, white or coloured for cleaning ordinary machinery	„ 52.
„ 53 ..	Drill blue, heavy, medium and light qualities	„ 53B.
„ 54 ..	Drill bleached, heavy, medium and light qualities..	„ 54B.
„ 55 ..	Drill khaki, heavy, medium and light qualities..	„ 55B.
„ 56 ..	Pugri cloth, cotton, red	„ 56B (*c*).
„ 57 ..	Pugri cloth, cotton, blue	„ 57C (*c*).
„ 58 ..	Pugri cloth, cotton, bleached	„ 58A.
„ 62 ..	Pugri cloth, cotton, green	„ 62.
„ 63 ..	Webbing cotton, khaki	„ 63.
„ 64 ..	Kullahs	„ 64.
„ 65 ..	Dosooti, bleached	„ 65.
„ 67 ..	Long cloth, bleached	„ 67.
„ 68 ..	Cloth, table, bleached	„ 68A.
„ 69 ..	Sheeting, unbleached	„ 69.
„ 70 ..	Sheets, bed, unbleached	„ 70.
„ 71 ..	Lungis with headings of gold thread ..	„ 71.
„ 73 ..	Lungis, ordinary	„ 73A (*c*).
„ 75 ..	Napkins, table, bleached	„ 75.
„ 78 ..	Gabardine cotton cloth, blue black shade ..	„ 78A (*b*).

APPENDIX X—*contd.*

(A) List of Indian Stores Department General Specifications current at the end of the year 1929-30.

Specification No.	Description.	Current edition.
	(ix) Cloth clothing and equipment—G/Textiles—contd.	
G/Tex./C-80 ..	Muslin, grey	G/Tex./C-80A (*c*)
„ 81 ..	Pliable sheets of cotton canvas	„ 81 (*a*).
„ 82 ..	Cloth markeen	„ 82 (*a*).
„ 83 ..	Drill, cotton, grey	„ 83.
„ 85 ..	Towels, hand	„ 85A (*c*).
„ 87 ..	Towels bath, Turkish	„ 87 (*a*).
„ 88 ..	Tape, cotton, white unbleached	„ 88 (*a*).
„ 89 ..	Umbrellas	„ 89 (*a*).
„ 90 ..	Cloth, madapolam	„ 90 (*a*).
„ 91 ..	Capes with hood, waterproof	„ 91 (*a*).
„ 93 ..	Webbing, white and coloured ..	„ 93 (*a*)
„ 94 ..	Cloth ticking, grey	„ 94 (*a*).
„ 96 ..	Coats, waterproof	„ 96 (*a*).
„ 98 ..	Sheets, bed, bleached	„ 98 (*a*).
„ 99 ..	Bags for carrying air mail	„ 99 (*a*).
„ 101 ..	Jerseys, cotton, grey	„ 101A (*b*).
„ 102 ..	Cloth Bedford cord, khaki	„ 102 (*a*).
„ 104 ..	Durries flooring	„ 104 (*a*).
„ 105 ..	Bleached muslin white (cambric)	„ 105 (*a*).
G/Tex./F-1 ..	Bag, Superintendent's camp, flax canvas, single	G/Tex./F-1.
„ 2 ..	Bag, Superintendent's camp, flax canvas, double	„ 2.
„ 4 ..	Bags, nose	„ 4B (*c*).
„ 5 ..	Buckets, canvas, for ponies	„ 5.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(*ix*) *Cloth, clothing and equipment*—G/Textiles—contd.	
G/Tex./F.-6 ..	Bags, planter's with locking arrangements (unproofed) and planter's bag (proofed) with locking arrangements ..	G/Tex./F. 6B (*c*).
„ 7 ..	Canvas flax	„ 7.
„ 34 ..	Canvas, French	„ 34 (*a*).
„ 36 ..	Canvas flax ' C ' grade	„ 36 (*a*).
„ 37 ..	Canvas white unproofed for carriage cushions and seats	„ 37 (*a*).
„ 38 ..	Canvas staying	„ 38 (*a*).
„ 45 ..	Dowlas 54″	„ 45.
„ 46 ..	Paulins	„ 46C.
G/Tex./H-1 ..	Ropes, head and heel, manilla	G/Tex./H-1.
„ 2 ..	Cordages and line, hemp	„ 2.
„ 3 ..	Twine, hemp, English and Country ..	„ 3.
„ 4 ..	Ropes and cordages, manilla, hawser laid (first quality)	„ 4B.
„ 5 ..	Ropes and cordages, manilla, hawser laid (second quality)	„ 5.
„ 6 ..	Cash bags, tat puttie	„ 6.
G/Tex./J-1 ..	Twine jute 1-ply, 2-ply, 3-ply, 4-ply, 5-ply and 6-ply	G/Tex./J-1A.
„ 12 ..	Bags jute, unproofed, for linemen's tools ..	„ 12A.
„ 22 ..	Bags, flax or jute, mail, proofed and unproofed	„ 22B.
„ 23 ..	Paulins, jute	„ 23B.
„ 33 ..	Handbag for R. M. S. sorter	„ 33 (*a*).
G/Tex./Misc.-7 ..	Lace, gold	G/Tex./Misc.-7.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(ix) Cloth, clothing and equipment—G/Textiles—contd.	
G/Tex./Misc.-25 ..	Braid, lace and fringes, gold	G/Tex./Misc.-25 (*a*).
G/Tex./T-1 ..	General specification for tent components ..	G/Tex./T-1 (*a*).
„ 2 ..	Swiss cottage tent square ended	„ 2 (*a*).
„ 3 ..	Hill tent	„ 3 (*a*).
„ 4 ..	Tahsildar's tents	„ 4 (*a*).
„ 5 ..	Raoti tent, single fly	„ 5 (*a*).
„ 21 ..	Miniature swiss cottage tent (round ended) ..	„ 21 (*a*).
„ 22 ..	Indian Officer's tent (double fly)	„ 22 (*a*).
„ 23 ..	Kashmere tent, round ended	„ 23 (*a*).
„ 24 ..	Tents square ended, forest officer pattern ..	„ 24 (*a*).
„ 40 ..	Servant's pals or shouldaries	„ 40 (*a*).
„ 41 ..	Light field service tents, 80 lbs.	„ 41 (*a*).
„ 42 ..	Field Officers, Kabul pals..	„ 42 (*a*).
„ 43 ..	General service tent	„ 43 (*a*).
„ 44 ..	Sawar pal	„ 44 (*a*).
„ 45 ..	Survy pal, square ended	„ 45 (*a*).
„ 46 ..	Half pal tents	„ 46 (*a*).
„ 47 ..	Mountain Battery tents	„ 47 (*a*).
„ 48 ..	Sleeping pal	„ 48 (*a*).
G/Tex./W-1 ..	Wool, black and mixed, for blankets ..	G/Tex./W-1.
„ 3 ..	Drawers, woollen	„ 3.
„ 4 ..	Caps, balaclava	„ 4.
„ 5 ..	Jackets, cardigan, woollen	„ 5A.
„ 6 ..	Putties, woollen, khaki and blue	„ 6A.

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(ix) Cloth, clothing and equipment—G/Textiles—contd.	
G/Tex./W-7 ..	Bunting cloth, red and green	G/Tex./W-7B (c).
" 8 ..	Serges, blue, medium quality and broad cloths	" 8A.
" 9 ..	Serges of superior quality	" 9B.
" 11 ..	Flannel, silver grey	" 11.
" 12 ..	Mittens	" 12A (c).
" 13 ..	Packing, woollen, yarn, for main motor and suspension bearings	" 13.
" 15 ..	Serge, white for Medical and Veterinary requirements	" 15.
" 16 ..	Flannel, white	" 16B.
" 18 ..	Serge, blue for shore and sea service ..	" 18.
" 19 ..	Serge, khaki	" 19.
" 20 ..	Socks, woollen, blue, grey	" 20.
" 21 ..	Woollen, yarns	" 21B (c).
" 22 ..	Serges of medium quality	" 22A (c).
" 23 ..	Broad cloth, woollen	" 23.
" 24 ..	Flannel, green, superior quality	" 24.
" 25 ..	Serges of various shades for lining	" 25 (a).
" 26 ..	Flannel Angola (union) grey	" 26 (a).
" 27 ..	Irish frieze for greatcoats	" 27A (b).
" 29 ..	Blankets, saddle	" 29 (a).
" 30 ..	Blanket, woollen, scarlet	" 30 (a).
" 31 ..	Blankets, woollen, ordinary	" 31 (a).
" 32 ..	Cloths, blanketting, grey and black for the use of Railway staff	" 32A (c).

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(*ix*) *Cloth clothing and equipment*—G/Textiles—contd.	
G/Tex./W-34 ..	Yarn similar to Illingsworths thrums for packing bearing boxes of axles generators on electric freight locomotives	G/Tex./W-34 (*a*).
„ 36 ..	Jerseys, woollen..	„ 36.
„ 52 ..	Felt	„ 52 (*a*).
	(*x*) *Miscellaneous*—G/Misc.	
G/Misc.-1 ..	Padlocks and locks, box, drawers, etc. ..	G/Misc.-1E.
„ 2 ..	Carbide of calcium	„ 2.
„ 3 ..	Boxes, kit, for sea service for the Military Engineer Services	„ 3.
„ 15 ..	Safes, burglar resisting, non-fire resisting ..	„ 15.
„ 17 ..	Brush, sweeping	„ 17.
„ 18 ..	Brush for painting letter boxes	„ 18.
„ 19 ..	Brush for cleaning stamps	„ 19A.
„ 24 ..	Buttons, hollow, white metal	„ 24.
„ 25 ..	Buttons, hollow and badges, brass, guilding metal, nickel silver, German silver, white metal, silver and 'Bronzed'	„ 25.
„ 30 ..	Fire extinguisher, hand and chemical ..	„ 30A.
„ 32 ..	Lead seals for general purposes	„ 32 (*a*).
	(*xv*) *Waterworks stores*—G/W. W	
G/W.W.-27 ..	Pipes, salt glazed earthenware . .	G./W. W.-27B (*c*).
„ 28 ..	Pipes, wrought iron or mild steel	„ 28B (*c*).
„ 29 ..	Pipes, wrought iron or mild steel for gas ..	„ 29C.
„ 30 ..	Pipes, wrought iron or mild steel for water ..	„ 30A.
„ 34 ..	Mild steel pipes and specials for water main and hydraulic power	„ 34 (*a*).

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	(*xv*) *Waterworks stores*—G/W. W—contd.	
G/W. W.-35 ..	Sluice valves	G/W. W.-35 (*a*).
" 43 ..	Pipes, lead, for water	" 43B.
	(*xvii*) *Chemicals.*—G/Chemicals.	
G/Chemicals 9 ..	Nitric acid, commercial	G/Chemicals 9.
" 11 ..	Hydrochloric acid, commercial	" 11.
" 12 ..	Hydrochloric acid, pure	" 12.
" 14 ..	Sulphuric acid, concentrated, for accummulators.	" 14.
" 15 ..	Sulphuric acid, commercial	" 15.
" 16 ..	Alumina-ferric	" 16.
	SECTION 8.—*Electrical plant and materials*—H.	
H-23	Wall plugs and sockets, two-pin, hand shield side entry and face entry pattern ..	H-23.
H-24	Wall plugs and sockets, three-pin, hand shield side entry and face entry pattern. (Two pin and earth type)	H-24.
H-25	Plugs and sockets, reversible and non-reversible protected type, two-pin, for circuits up to 250 volts between poles with earthing connection	H-25.
H-26	Switches, tumbler, quick make and quick break (for use on circuits up to 250 volts)	H-26.
H-34	Insulators porcelain, pin or shackle type for low and medium tension electric transmission line	H-34.
H-42	Condensers, metal cased, 1st grade for telegraphs and telephones	H-42 (*a*).
H-45	Poles, steel, tubular type, for electric power transmission	H-45.

APPENDIX X—*contd.*

(*A*) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 8.—*Electrical plant and materials*—H.—contd.	
H-46	Electrical flexible cords, single conductors, etc.	H-46A.
H-48	Fans, ceiling, alternating current	H-48C (*c*)
H-50	Bridge megger testing set..	H-50.
H-51	Control panel direct current motor iron clad	H-51A.
H-52	Lamp, normal type tungsten filament incandescent	H-52A.
H-53	Lamp, carbon filament, electric	H-53.
H-54	Lamp, gas filled tungsten filament incandescent electric	H-54A.
H-55	Fans, ceiling and regulators (D.C.) ..	H-55B (*c*)
H-56	Wire copper, hard drawn bare	H-56B (*c*).
H-57	Cable, electric, single, V. I. R.	H-57A (*c*).
H-58	Wood casing and capping	H-58A.
H-60	Wire, copper, hard, drawn, for telegraph or telephone	H-60
H-62	Cables, electric, medium and low pressure paper insulated lead covered and steel armoured, three core and two core ..	H-62A (*c*).
H-64	Fans, electric, desk or pedestal, D. C. ..	H-64.
H-65	Fans, electric, desk or pedestal, A. C. ..	H-65.
H-67	Single core V. I. R., flame proof cable, and fire resisting cable (250 Volts, 600 megohm grade)	H-67A (*b*).
H-68	Two and four core twin and quad twisted rubber insulated lead covered and armoured under water telegraph cable ..	H-68 (*a*).
H-69	Single core V. I. R. tropical grade insulated cable (250 Volts 600 meghom grade) ..	H-69 (*a*).

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 8.—*Electrical plant and materials*—H—contd.	
H-70	Cords instrument (tropical finish)	H-70 (*a*).
H-71	Wire copper, silk covered	H-71 (*a*).
H-72	Wire copper, cotton covered	H-72 (*a*).
	SECTION 9.—*Power and Industrial plant*—P. I.	
P. I.-12 ..	Electric machinery	P. I.-12A.
„ 19 ..	Dragline excavator, oil engine operated ..	„ 19B.
„ 20 ..	Dragline excavator, light weight, steam operated coal firing	„ 20A.
„ 21 ..	Dragline excavator, steam operated, coal or oil firing	„ 21.
„ 22 ..	Dragline excavator, crude oil engine operated	„ 22.
„ 26 ..	Jollyboat	„ 26.
„ 35 ..	Dragline excavator, light weight, steam operated coal or oil firing	„ 35B.
„ 36 ..	Electric hoists or winches	„ 36.
„ 37 ..	Dredgers (grab type)	„ 37.
„ 38 ..	Petrol paraffin engine	„ 38B.
„ 39 ..	Belting for power drive	„ 39A.
„ 40 ..	Motor boat	„ 40A.
„ 42 ..	Steam pile driving plant	„ 42.
„ 43 ..	Engine, crude oil	„ 43H (*c*).
„ 44 ..	Dragline excavator (heavy type)	„ 44.
„ 45 ..	Dragline, excavator, medium weight, steam operated, coal or oil firing	„ 45B

APPENDIX X—*contd.*

(A) *List of Indian Stores Department General Specifications current at the end of the year 1929-30.*

Specification No.	Description.	Current edition.
	SECTION 9.—*Power and industrial plant*—P. I.—contd.	
P. I.-49 ..	Dragline excavator	P. I.-49.
„ 60 ..	Centrifugal pumps	„ 60.
„ 61 ..	Stone breaker, etc., oil engine driven ..	„ 61.
„ 62 ..	Mortar grinding mill	„ 62.
„ 65 ..	Dragline excavator, special, light weight, steam operated, coal or oil firing ..	„ 65B.
„ 74 ..	Generator and motors, D. C.	„ 74.
„ 75 ..	Rotary convertor	„ 75.
„ 76 ..	Transformers, electric power	„ 76.
„ 77 ..	Alternators	„ 77B (*c*).
„ 80 ..	Plant and machinery	„ 80.
„ 81 ..	Switch board, D. C.	„ 81A (*c*).
„ 82 ..	Generator, D. C., 3 wire type and static balancers	„ 82.
„ 95 ..	Crane, electrically operated, overhead travelling and traversing	„ 95.
„ 106 ..	Road roller, steam operated, coal and wood fired	„ 106E (*c*).

(*a*) Specifications framed during the year 1929-30.

(*b*) Specifications framed and revised during the year 1929-30.

(*c*) Specifications revised during the year 1929-30.

(B) *List of Indian Stores Department special specifications current at the end of the year 1929-30.*

Specification No.	Description.
	SECTION 1.—*Bridgework—A.*
A-31 ..	.. Standard mobilization steel hutting.
A-32 ..	.. Steel and iron work required by the Indian Public Works Department, Delhi, for the roofing of the Assembly, the Council of State and of the Council of Princes' Chambers and Library of the New Legislative Buildings, Imperial Delhi.
A-36 ..	.. Special construction quarters (portable hutting) for the Lloyd Barrage Project.
	SECTION 2.—*Engineers' plant (excluding petty tools)*—B.
B-48 ..	.. Portable steam pumping engine equipment with vertical boiler and hose pipe for the Bikaner Canal, Punjab.
B-49 ..	.. Crane, one 7-ton Scotch hand derrick for the Irrigation Department, Punjab.
	SECTION 5.—*Rolling Stock*—E.
E-30 ..	.. Metre gauge steam rail motor with goods truck and goods trailer truck for the Sutlej Valley Project, Punjab Public Works Department.
E-31 ..	.. Steam locomotives, 2′ 0″ gauge, for the Sutlej Valley Project, Bikaner Canal, Punjab Public Works Department.
E-40 ..	.. Steam locomotives, 2′ 0″ gauge, for the Sukkur Barrage Project, Sukkur.
E-52 ..	.. Rectangular steel bearing plates for N. W. Railway.
	SECTION 7.—(*ii*) *Lamps and lamp fittings*—G/Lamps.
G/Lamps 11	.. Railway Mail Service folding candle lantern for the Posts and Telegraphs Department.
„ 16	.. Brass sealing lamp for the Posts and Telegraphs Department.
„ 23	.. Table lamp, hanging lamp and hurricane lantern, for the Posts and Telegraphs Department.
„ 24	.. Incandescent hurricane or hanging lantern petrol pressure type, for the Posts and Telegraphs Department.
	SECTION 7.—(*iv*) *Metals*—G/Metals.
G/Metals 47	.. Antifriction metal, high grade and low grade for the Military Engineer Services.
	SECTION 7.—(*v*) *Painter's stores*—G/O.P.
G/O. P. 43	.. Oils for use of Government Telegraph Department.
„ 152	.. Oil, lubricating crank chamber, high speed steam engine No. 2 for Bengal Nagpur Railway.
„ 153	.. Kerosene oil K-1 in bulk suitable for gas making for Bengal Nagpur Railway.
	SECTION 7.—(*ix*) *Cloth, clothing and equipment*—G/Textiles.
G/Tex./C 25	.. File bundling sheet of blue drill for the Posts and Telegraphs Department.
„ 26	.. Khaki drill sacks, postman's, for the Posts and Telegraphs Department.

(B) *List of Indian Stores Department special specifications current at the end of the year 1929-30*—contd.

Specification No. Description.

SECTION 7:—(*ix*) *Cloth, clothing and equipment*—G/Textiles.—contd.

(c)G/Tex./C-27A Waterproof khaki drill delivery bag, for the Posts and Telegraphs Department.

" 29 .. Clothing materials for the use of the staff of the Posts and Telegraphs Department.

(a) " 32 .. Cape, with hood water proof, for Bombay Police.

(c) " 38A Haversack for Burma Military Police.

" 66 .. Pugree, muslin, blue, for North Western Railway.

" 72 .. Dosuti, grey, for Borstal Institute, Lahore.

" 74 .. Turbans, khaki, for the G. I. P. Railway staff.

" 76 .. Dosuti khaki for North Western Railway.

(a) " 77 .. Dosuti grey for E. I. Railway.

(a) " 79 .. Lungis ordinary for Sind Police.

(a) " 84 .. Grey, drill, unbleached for Borstal Institute, Lahore.

(a) " 86 .. Sheeting grey for Borstal Institute, Lahore.

(a) " 97 .. Dosuti grey (heavy quality) for Railways.

(b) " 103A Sheets, cotton, bleached for E. I. Railway.

(c) G/Tex./W 10A Oxford grey for N. W. Railway.

(c) " 14A Broad cloth, dark blue, for Bombay Police.

" 17 Greatcoats with capes for mounted and foot police, Sind.

(a) " 28 Blankets, woollen, for G. I. P. Railway menial staff.

" 38 Greatcoats with capes for Salt and Excise Department, Sind.

" 39 Serge, khaki for G. I. P. Railway.

(a) " 41 Serge, grey for E. I. Railway.

(a) " 50 Drab mixture greatcoat cloth, for Inspector General of Prisons, Bombay.

(a) " 51 Twill cloth, woollen, khaki for the Posts and Telegraphs.

G/Tex./Misc. 1 .. Waist and shoulder belts of red broad cloth for the Posts and Telegraphs Department.

(c) " 2B Summer uniforms for the East Indian Railway staff.

(c) " 3B Winter uniforms for the East Indian Railway staff.

(a) " 24 Clothing material for Government of India menial staff.

(a) " 40 Gold lace for the uniforms of Government of India menial staff.

SECTION 7.—(*x*) *Miscellaneous*—G/Misc.

G/Misc.-4A .. Double security bond boxes and stamp boxes for the Posts and Telegraphs Department.

(b) " 6A .. Safes for the Director-General of Posts and Telegraphs.

" 7A .. Tin box for insurance seal types and tin box for stamp types for Railway Mail Service.

" 8 .. Lead seals for the Posts and Telegraphs Department.

(c) " 9A .. Clocks and time-pieces for the Posts and Telegraphs Department.

(B) *List of Indian Stores Department special specifications current at the end of the year 1929-30*—contd.

Specification No.		Description.
		SECTION 7.—(*x*) *Miscellaneous*—G/Misc.—contd.
	G/Misc.-10	.. Tin trays to hold Rs. 1,000 and Rs. 500 for the Posts and Telegraphs Department.
	" 11	.. Badges, brass, for the Posts and Telegraphs Department.
	" 12	.. Letter box for the Posts and Telegraphs Department.
	" 13	.. Punching machine for the Posts and Telegraphs Department.
	" 14	.. Spear head with brass bells for the Posts and Telegraphs Department.
	" 16	.. Tin sheets for the Posts and Telegraphs Department.
	" 20	.. Wooden block for label for the Post and Telegraphs Department.
	" 21A	.. Enamelled sheet steel signboards, letter box plates, etc., for the Posts and Telegraphs Department.
(c)	" 22A	.. Button, brass, for the Posts and Telegraphs Department.
	" 23	.. Tin seal holder for the Posts and Telegraphs Department.
	" 26B	.. Crump's adjustable proportional modules for the Punjab Irrigation Branch, Public Works Department.
(a)	" 33	.. Lead seals for the Controller of the Currency.
		SECTION 7.—(*xv*) *Water Works Stores*—G/W. W.
	G./W. W. 31	.. Wrought iron or miled steel pipes for water for the Bikaner canal.
(a)	" 51	.. Rising main, 89,000 running feet, specials, sluice valves, air valves, etc., from Ramgarh to Jaipur, for the Water Supply Scheme for the Jaipur State, P. W. D.
(a)	" 52	.. Distribution piping, specials, valves and accessories for the Water Supply Scheme for Jaipur State, P. W. D.
(a)	" 53	.. Piping, specials, valves and accessories for Water Supply, Public Works Department, New Delhi.
		SECTION 8—*Electrical plant and materials*—H.
	H-59	.. One switchboard generator panel for Ambala.
	H-61	.. Low and medium pressure paper insulated lead covered and steel tape armoured, 3 core and 2 core electric cables for the Indian Public Works Department, Delhi.
	H-63	.. Motor alternator set and testing transformer with induction regulator controller for the Government Test House, Calcutta.
(a)	H-66	.. Composition insulators for Posts and Telegraphs Department.
		SECTION 9.—*Power and industrial plant*—P. I.
	P. I. 27	.. Heave-up boat for the Lloyd Barrage Works, Sukkur.
	" 28	.. Heave-up boat for the Lloyd Barrage Works, Sukkur.
	" 41	.. Pile driver and frame for the Sutlej Valley Project.
	" 46	.. Steam and exhaust piping for the Nalagarh power house.
	" 47	.. Two 25 K. W. oil engine driven generating sets and switchboard for the British Infantry Barracks, Lahore.
	" 48	.. Turbo-alternator set, condensing plant, cranes, boiler, economiser pumps, steel chimney, steam and exhaust pipework, switchboard motor convertor set, rotary convertors, substation plant, extra, high tension feeder cables and auxiliaries for the Public Works Department, Delhi.

(B) *List of Indian Stores Department special specificatiovs current at the end of the year 1929-30*—contd.

Specification No.	Description.
	SECTION 9.—*Power and industrial plant*—P.I.—contd.
P. I.-50	.. Concrete mixers and prime movers required for the Bikaner Canal, Sutlej Valley Project.
„ 51	.. Stone breaker plant and screens for the Nalagarh Quarries, Sutlej Valley Irrigation Project.
„ 52	.. Generating plant, transformers, switchgear, pump and motors, for the Nalagarh Quarries power plant, Punjab Irrigation Department.
„ 53	.. Generating plant, transformers, switchgear, pump and motors, for the Ferozepore Division power plant, Punjab Irrigation Department.
„ 54	.. Concrete mixers with motors for the Sutlej Valley Project.
„ 55	.. One 53·4 K. V. A. oil engine driven A. C. generating set with exciter for the Northern India Salt Revenue Department, Sambhar Lake.
„ 56	.. Switchgear for the Northern India Salt Revenue Department, Sambhar Lake.
„ 57	.. A. C. motor and controlgear for the Government of India Press, Simla.
„ 58	.. A. C. motors, controlgear, main switch panel, cable work and wiring for the experimental spinning plant and technological laboratory of the Indian Central Cotton Committee, Bombay.
„ 59	.. Two 4 K. W. oil engine-driven generating sets and switchboats for the Military Works Services, Nowshera Sub-District, Northern Command.
„ 63	.. Passenger, goods and service lifts required by the Indian Public Works Department, for the new Legislative Buildings, Delhi.
„ 64	.. Passenger, goods and service lifts required by the Indian Public Works Department for Government House, Delhi.
„ 66	.. Oil engine alternator set, water cooling plant, crane, switchgear and cables for power station, transformer switchgear and cables for a sub-station for the Lloyd Barrage Works, Sukkur.
„ 70	.. Oil engine dynamo sets, main fuel tank complete with pipe-work, water cooling plant, crane, switchgear and cables for power station and motors, controlgears and cables for the press machinery for the Government Postal Press, Aligarh.
„ 78	.. Additional oil engine alternator sets, water cooling plants, transformers switchgear and cables for the power station of the Lloyd Barrage Works, Sukkur.
„ 79	.. Concrete blockyard plant for the Lloyd Barrage Project, Sukkur.
„ 83	.. 325 K. W. oil engine alternator sets, water cooling plant, oil fuel storage tank complete with pipework, crane, transformers switchgear, and connecting cables, induction motors, E. H. T. feeder cables and accessories for power station and miscellaneous plant, for Salt Mines, Khewra.
„ 84	.. Goods lifts for Postal Press, Aligarh.
„ 85	.. Electrically driven pumping machinery mounted on pontoons for de-watering coffer dams for the Lloyd Barrage Works, Sukkur.
„ 86	.. Oil engine driven power plant for the New Power Station, Municipal Board, Mussooree.

(B) *List of Indian Stores Department special specifications current at the end of the year 1929-30*—concld.

Specification No.	Description.
	SECTION 9.—*Power and industrial plant*—P. I.—concld.
P. I.-87	.. Plant for Hydro-Electric Scheme, Municipal Board, Mussooree.
,, 88	.. Oil engine driven power station for Jaipur.
,, 89	.. Pile driving plant mounted on pontoons for the Lloyd Barrage Works, Sukkur.
,, 90	.. Scotch derrick crane, motor-driven, to lift 25 and 10 tons on pontoons for the Lloyd Barrage Works, Sukkur.
,, 91	.. Steam driven paddle tugs for the Lloyd Barrage Works, Sukkur.
,, 92	.. Barges for the Lloyd Barrage Works, Sukkur.
,, 93	.. Oil engine driven (diesel) Bucyrus dragline excavators, 30B, for the Lloyd Barrage Works, Sukkur.
,, 94	.. Oil engine driven (diesel) Bucyrus dragline excavators, 50B, for the Lloyd Barrage Works, Sukkur.
,, 96	.. Electrical plant for the Public Works Department, Punjab.
,, 97	.. 30-B diesel engine driven Bucyrus dragline excavator for the Lloyd Barrage Works, Sukkur.
,, 99	.. Steel barges of capacity up to 100 tons of stone for the Lloyd Barrage Works, Sukkur.
,, 100	.. 50-B diesel engine driven Bucyrus dragline excavator for the Lloyd Barrage Works, Sukkur.
,, 101	.. Sluice gates for the Panjnad Barrage on the river Sutlej thirty-three gates, clear width of opening 60′ 0″, 18′ 6″ deep, for Punjab Public Works Department.
,, 102	.. Gates for the undersluices of the weir across the river Damodar, etc.
,, 103	.. 250 K. W. 2,300 volts full diesel oil engine alternator sets for the Public Works Department, Simla.
,, 104	.. One 600 K. W. 3,300 volts oil engine alternator set, oil fuel service, tanks, etc., for additional power station, Jaipur, Public Works Department.
,, 105	.. Steel barges of capacity up to 100 tons of stone for Lloyd Barrage Works, Sukkur.
,, 107	.. Three 200 K. W. 400 volts water turbine alternator sets, etc., for the Sumera Hydro-electric pumping and power scheme for the Public Works Department, United Provinces.
,, 108	.. Radial gates for the head and cross regulators for main canal and branches of the Lloyd Barrage and Canals Construction, Sind.
,, 109	.. Sluice gates, vertical sliding and radial types for small branches, distributaries and minors of the Lloyd Barrage and Canals Construction, Sind.

(*a*) Specifications framed during the year 1929-30.

(*b*) Specifications framed and revised during the year 1929-30.

(*c*) Specifications revised during the year 1929-30.

APPENDIX X-A.

List of Schedules of requirements framed by the Indian Store Department during the year 1929-30.

(*Vide* paragraph 33 of the Report.)

S. R. No.	Subject.
816	Arch centrings and skirt plates.
817	Bridge girders for Chittagong Dohagari Railway.
818	Barges, steel, 100 tons for the Marine Department, Port Blair.
819	Pressed steel tank and staging for Military Engineer Services, Sialkot.
820	Crab winches for the Lloyd Barrage Works, Sukkur.
821	Aeroplane hangers at Calcutta, Delhi and Karachi for the Director, Civil Aviation.
822	Steel bars for forging jaws for extractor gear for steel piling for Lloyd Barrage and Canals Construction.
823	Oil engine pumping plant for the Waterloging Investigation Circle, Public Works Department, Lahore, Punjab.
824	Fencing posts, standards.
825	An additional 30 K. W. (continuous rating) oil engine driven direct current generating set, for Mlitary Engineer Services, St. Thomas Mount, Madras.
826	One high pressure steam disinfector and vertical boiler for Military Engineer Services, Drigh Road, Karachi.
827/1	Steel wire rope for Stores Officers, Lloyd Barrage Circle.
828	Single and polyphase meter testing apparatus for the Electrical Adviser to the Central Provinces Government, Nagpur.
829	Direct-current punkha motor sets and controller panels for the Military Engineer Services, Kohat.
830	Hand operated, overhead travelling and traversing cranes complete with pulley blocks and accessories, for the Hydro Electric Branch, Public Works Department, Punjab.
831	Steel work for buildings and steel frame windows for Hydro-Electric Branch, Punjab, Public Works Department.
832	Live roller gate for the undersluice of the Midnapore Weir across the river Cossye.
833	Steel wire rope for the Executive Engineer, Qaimpur Division, Sutlej Valley Project, Bahawalpur.
834	Pressed steel tank and staging for Military Engineer Services, Kohat.
835	Three core armoured cables for river works for the Power Supply Division, Sukkur.
836/1	Grader and tractor for the Military Engineer Services, Northern Command.
837	Ceiling coils, thawing and tipping gear for an ice store and ice making plant.
838	Two horizontal, single cylinder, cold starting, crude oil engines for the Military Engineer Services, Base Park, Lahore Cantonment.
839	Hot water boilers and hot water storage tanks for the Public Works Department, New Delhi.
840	Bowser tanks for petrol for Military Engineer Services, Kohat.
841	Complete steam engine *condensing plant* for Port Blair, Andamans.
842	Sluice gates for the tail regulator of the Manchar Drain, Lloyd Barrage and Canals Construction.

List of Schedules of requirements framed by the Indian Stores Department during the year 1929-30—contd.

S. R. No.	Subject.
843	Bucket elevators for surki for the Executive Engineer, Stores and Test Division, Cauvery Metur Dam Scheme, Madras.
844	Overhead crane for the Military Engineer Services, Shaghai power house.
845	Oil engine pumping plant for the waterlogging Investigation Circle, Public Works Department, Lahore, Punjab.
846	One 30 K. W. 2-wire, D. C. generating set for the Military Engineer Services, Razmak.
847	One oil engine, belt driven, deep well pump for the District Jail, Mianwali, Punjab.
848	Firebricks for the Lloyd Barrage Circle, Sind.
849	One 5 K. W. oil engine driven D. C. three wire generating set for Military Engineer Services, Belgaum, Bombay Presidency.
850	Milking booster set (portable) for the Controller of Telegraph Stores, Alipore, Calcutta.
851/1	One oil engine-40 K. W. D. C., 2 wire generating set, control panels for the power house, Chakanwali, Reclamation Farm, Punjab.
852	One 2½ tons capacity tramway type weighbridge complete with tape printing and indicating machanism for the Public Works Department, Cauvery Metur Project.
853/1	Steel strapping to fit "Signode" strapping machines for the Telegraph Stores, Alipore, Calcutta.
854	Pressed steel tank and staging for Military Engineer Services, Ishapore.
855	Grooved victualic jointed piping and victualic joints for Military Engineer Services, Reserve Engineer Stores, Lahore.
856	Pig iron for the Telegraph Stores, Alipore, Calcutta.
857	One direct reading positive action, water meter for Garrison Engineer, Military Engineer Services, Landikotal.
859/1	Locomotive head and tail lamps for Khewra Salt Mines.
860	Petrol storage tank for Military Engineer Services.
861	One paraffin or crude oil engine driven centrifugal (silt) pumping set for the Public Works Department, New Delhi.
862	Steel work for workshop garage roofing for the Military Engineer Services, Lucknow.
863	D. C. punkha motor sets and control panel for the Military Engineer Services, Kirkee.
864	Two A. C. slip ring induction motors complete with starters and switch-gear for the Forest Economist, Forest Research Institute, Dehra Dun.
865	One hand operated travelling and traversing crane complete with pulley blocks and accessories for the Military Engineer Services, Razmak.
866	Two pressed steel water tanks, 100,000 and 50,000 gallons capacity, stagings, housings, etc., for the Military Engineer Services, Lahore.
867	Portable oil-engine driven air-compressor set 200 cu. ft. capacity, for road transport for the Military Engineer Services, Lucknow.
868	One pressed steel tank 20,000 gallons capacity, for the Military Engineer Services, Murree.

List of Schedules of requirements framed by the Indian Stores Department during the year 1929-30—contd.

S. R. No.	Subject.
869	Five radial type regulator gates, 12′—0″ span, 9′—0″ high for remodelling and existing canal regulator on the Lloyd Barrage and Canals Construction, Sind.
870	Motor-driven bore-hole pumping sets and control gears for the Water Supply System, Lahore Cantonment, Military Engineer Services.
871	A steam tractor for rough country 5-ton haulage capacity for the Military Engineer Services, Northern Command.
872	3″ bore loose-flange steel piping bends, valves, etc., for the Military Engineer Services, Kasauli.
873	One oil-engine driven three-throw ram pumping set and equipment for Military Engineer Services, Kasauli, Punjab.
874	2′—0″ gauge light railway track for the No. III Division, P. W. D. Rohri Canal.
875	Oil engine and workshop plant, for the Malezai pumping station, Irrigation Department, Baluchistan.
876	Anchors for Lloyd Barrage Works, Sukkur.
877	Pumping station plant and equipment for the Malezai pumping station, Irrigation Department, Baluchistan.
878/1	Two pelton wheels, and high lift pumping sets for the Military Engineer Services, Risalpur.
879	One aeroplane flight hanger for the Royal Air Force, New Delhi Cantonment.
880/R	Electrical machinery for the Posts and Telegraphs Department, Wireless Section.
881	8 single phase transformers for the Aircraft Depot, Royal Air Force, Drigh Road, Karachi.
882	One pump for Baluchistan Public Works Department for tube well at Batezai.
883	One portable oil-engine driven pumping set for testing tube wells, etc., for the Irrigation Department, Baluchistan.
884	Oil engine pumping plant for the Irrigation Department, Baluchistan.
885	Nestable galvanized iron water troughs for Mobilization Stock, A. E. Park, Peshawar.
886	Galvanized grooved victaulic jointed steel piping. one inch, two inches and four inches bore, with victaulic joints and spares complete for the A. E. Parks, Mari-Indus, Peshawar, Quetta and Chaman.
887	Grooved victaulic jointed piping 2″ bore and victaulic joints for the R. E. S., Lahore.
888	Cast iron pipes, specials, sluice-valves, etc., for the Simla Municipality.
889	Two 20 K. W. oil engine driven D. C. three wire generating sets, static balancers, switchboard, overhead crane, water softening plant, etc., for the Military Engineer Services, Thall.
890	Pneumatic sewage ejector plant for the Palta Sewage Installation, Military Engineer Services, Eastern Command.
891	Four core, rubber insulated, lead covered and armoured, under water telegraph cable, for the Indian Posts and Telegraphs Department.
892	One 19 K. W. and two 38 K. W., D. C. 2 wire oil engine driven, generator sets, switchboard, cables, overhead crane, etc.
893	Motor driven centrifugal pumping set for the Hydro-Electric Branch, Public Works Department, Punjab.

List of Schedules of requirements framed by the Indian Stores Department during the year 1929-30—contd.

S. R. No.	Subject.
894	7″ bore solid drawn weldless steel piping and specials, and reflux valves and sluice-valves for the Military Engineer Services, Landikotal.
895	A. C. motor driven centrifugal pumping sets and switch-gear for the Water Supply Scheme, Drigh Road, Karachi, Military Engineer Services.
896	One oil engine driven pumping set, stationary type for the Military Engineer Services, Chakdara.
897	Steel tanks for fuel oil storage for Military Engineer Services, Jhansi.
898	One 4 valve wireless receiving set for the British Envoy at the Court of Nepal.
899	Wet concrete mixers, ½ cubic yard and ¼ cubic yard capacities for the Hydro-Electric Branch, Public Works Department, Punjab.
900	One 75 K. V. A. outdoor type transformer and H. T. and L. T. line equipment for the Public Works Department, New Delhi.
901	Electrically driven single drum winch for the Salt Mines, Khewra.
902	Locomotive wheel tyres and carriage and wagon axles, 5′—6″ gauge for the South Indian Railway Co. Ltd., Madras.
903/R	Mild steel pipes bends and specials for the Malakand power pipe line and rising main for the Military Engineer Services, Risalpore.
904/R	Galvanized steel wire ropes for the Executive Engineer, Shahpur Provincial Division, Punjab.
905/1	Electrically driven centrifugal pumping sets for the Military Engineer Services, Lahore.
906	Karries deodar, first class for Public Works Department, Punjab.
907	A. C. punkha motor sets reduction gear, etc., for the Military Engineer Services, Mingaladon, Rangoon.
908	Forges steel buffer shell for 'N' class locomotives for the South Indian Railway Co. Ltd., Negapatam.
909	Structural steel staging and accessories for a 20′—0″×20′—0″×8′—0″, 20,000 gallons capacity steel tank, for the Military Engineer Services, Ferozepore.
910	Electrically driven bore-hole pumping set for the Military Engineer Services, Ferozepore.
911	Steelwork for covered stands for mules, Military Engineer Services.
912	Mild steel round bars for concrete re-inforcement of gate and road bridge arches, Lloyd Barrage and Canals Construction, Sind.
913	Air heating plant and accessories for warm air supply to New Workshops, Rawalpindi Arsenal.
914	One unit construction pressed steel water tank for Military Engineer Services, Wana, Waziristan.
915	Oil engine pumping plant for the Drainage Division, Lower Jhelum Canal, Bhek Pumping Scheme.
916	Electric motors and switchboard for Military Engineer Services, Manzai.
917	Paddle steamer for river ferry for Burma Railways.
918	Tape, stay, linen.
919	Generating sets, etc., for Military Engineer Services, Haripur.
920	Air cooling and conditioning plant for Calcutta.

List of Schedules of requirements framed by the Indian Stores Department during the year 1929-30—contd.

S. R. No.	Subject.
921	Galvanized grooved victaulic jointed piping bends, elbows, etc., with victaulic joints and spares complete for the R. E. Park, Lahore.
922	Galvanized steel wire ropes, Langs lay, 6/19″ construction for Punjab Central Workshop Division.
923	Galvanized steel wire ropes, Langs lay, 1″ and ¾″ circumference for Forest Department, Punjab.
924	Motor driven ambulance for the Director of Civil Aviation.
925	Metal window frames for the Military Engineer Services, Northern Command.
926	Belt driven double low lift plunger pump Shikarpur Canals Division, Sukkur.
927	Pressed steel water tank for scoutpost Sarwakai, for Garrison Engineer, Manzai, Waziristan.
928	Storage battery for Posts and Telegraphs Department, Calcutta.
929	Pig iron for Telegraph Stores, Calcutta.
930	C. I. pipes and bends, etc., for Simla Municipality.
931	Cables, joint boxes, etc., for the Delhi Public Works Department.
932	Cast iron stand pipes and hydrant heads with valves and accessories for North Western Railway.
933	Coats waterproof for E. I. Railway staff.
934	Aeroplane hangar at Mingaladon, Rangoon, Burma, for the Director, Civil Aviation.
935	Tower Clock and accessories for the Nava Vidyalaya High School, Hyderabad, Sind.
936	Motor driven centrifugal pumping set for the Military Engineer Services, Meerut.
937	Railings for Pile bridges for Military Engineer Services, Peshawar.
938/R	Steel racks for Military Engineer Services, Rawalpindi.
939	Suspension bridge at Dawki, Assam, for Public Works Department.
940	Steel round bars for reinforced concrete construction for Hydro-Electric Branch, Public Works Department, Punjab.
941	Railway carriage ceiling fans 16″ sweep trunnion mounted 24 volts D. C. for G. I. P. Railway.
942	Three 20 K. W. 230/230 volts, 3 wire oil engines D. C. generating sets complete with static balancers, compressor sets, water cooling plant, main oil fuel storage tank, pipe work, overhead crane switchboard, connecting cables and accessories for Manzai Power Station for the Military Engineer Services.
943	Two medium lift vertical shaft and two high lift horizontal shaft centrifugal pumps, together with A. C. induction type motor starters, switchgear, transformer, cable work, pipes, valves, etc., for the Ramgarh Pumping Station of the Jaipur Water Works Scheme.
944	Standard bright machined whiteworth bolts, nuts and washers for the Public Works Department, Jaipur.
945	Four-ply rubber-insertion joint washers for flanged water piping for the Public Works Department, Jaipur.
946	One clutch pulley 16″ diameter for belt-driven saw and one wrought iron split pulley 48″ diameter for the Forest Research Institute, Dehra Dun.

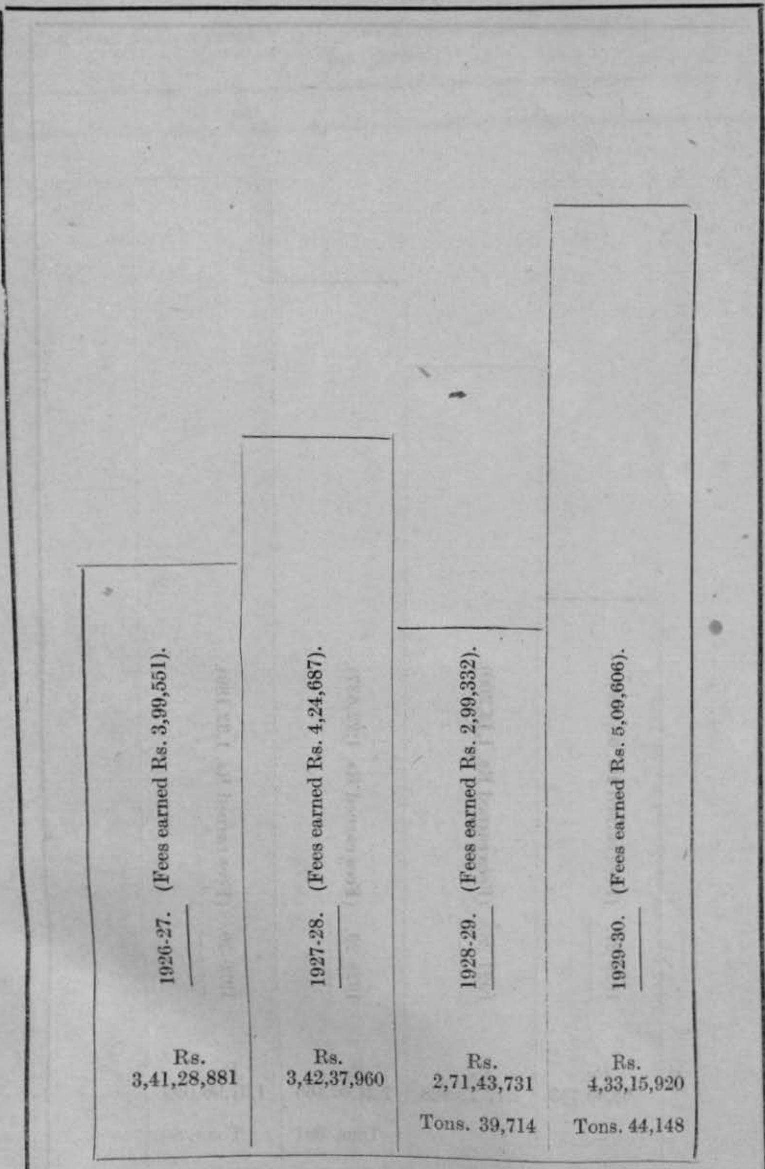
List of Schedules of requirements framed by the Ind an Stores Department during the year 1929-30—concld.

S. R. No.	Subject.
947	One pressed steel water tank for drinking water 50,000 gallons, staging, housings, etc., for Military Engineer Services, Meerut.
948	One pressed steel water tank for drinking water 20,000 gallons, staging, housings, etc., for Military Engineer Services, Meerut.
949	Machinery for the electrification of Ferozepore Arsenal.
950	Cast iron accessories for Simla Municipality.
951	30 tons capacity Railway type weigh bridge for the Public Works Department, Punjab.
952	Steel racks for Military Engineer Services, Rawalpindi (Assembly Factory).
953	One vertical steam boiler for Military Engineer Services, Ferozepore.
954	Motor pumping set for Military Engineer Services, Ferozepore.
955	Pig iron for the Telegraph Stores, Alipore, Calcutta.
956	Reducing valves for Military Engineer Services, Murree and Campbellpore.
957	Water softening and oil eliminating plant for the Military Engineer Services, Peshawar.
958	Tip-trucks 2′—6″ gauge for Public Works Department, Punjab.
960	Switch gear transformers, etc., for Jaipur.
961	One pressed steel drinking water tank 100,000 gallons capacity for the Military Engineer Services, Jhansi.
962	Pressed steel tank, 40,000 gallons, for Thall.
963	Galvanized steel water tanks for carriages for Burma Railways, Rangoon.
964	One 500 Killowat 3,300 volts, oil engine alternator set for Public Works Department, Jaipur.
965	One 20 K. W. battery charging motor generating set for the Indian Telegraph Department (Wireless Section).
966	One A. C. slip ring punkha motor pulley set.
967	Steel work for garage roofing for Military Engineer Services, New Delhi.
968	Motor pumping set for Military Engineer Services, Bannu.
969	Two motor driven pumping sets for Military Engineer Services, Jhansi.

XI (*i*)—Calcutta Inspection Circle.

(*Vide* paragraph 38 of the report.)

Note.—The diagrams represent fees earned and not those actually adjusted during the year.

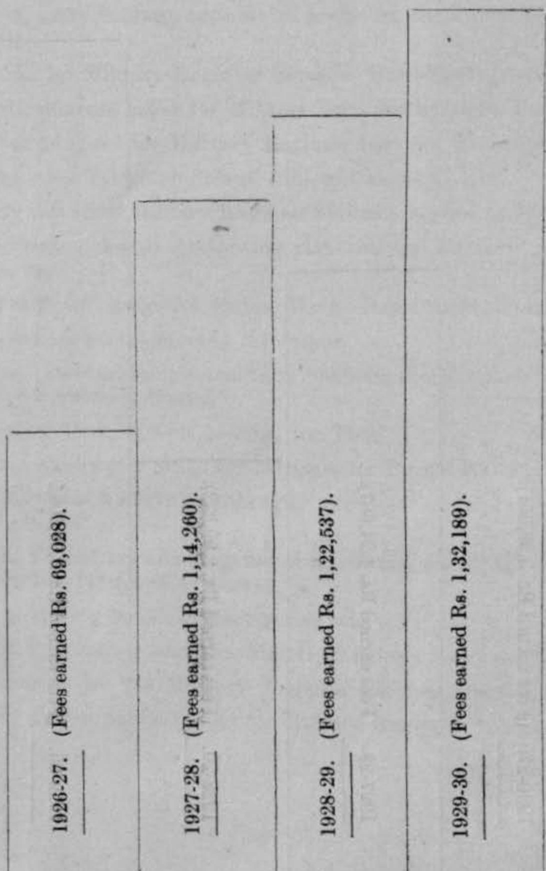


Value and tonnage of work inspected.

XI (*ii*)—Bombay Inspection Circle.

(*Vide* paragraph 39 of the report.)

Note.—The diagrams represent fees earned and not those actually adjusted during the year.

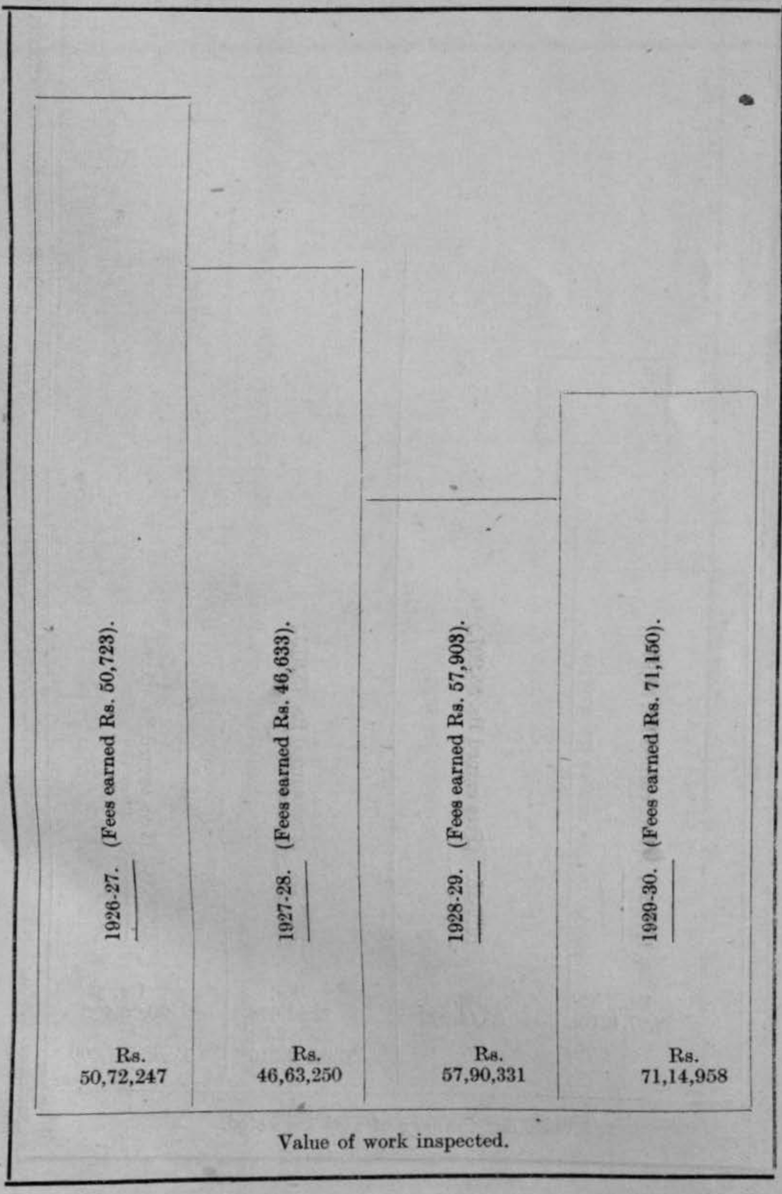


Value and tonnage of work inspected.

XI (*iii*)— $\frac{\text{CAWNPORE}}{\text{UPPER INDIA}}$ INSPECTION CIRCLE.

(*Vide* paragraph 41 of the report.)

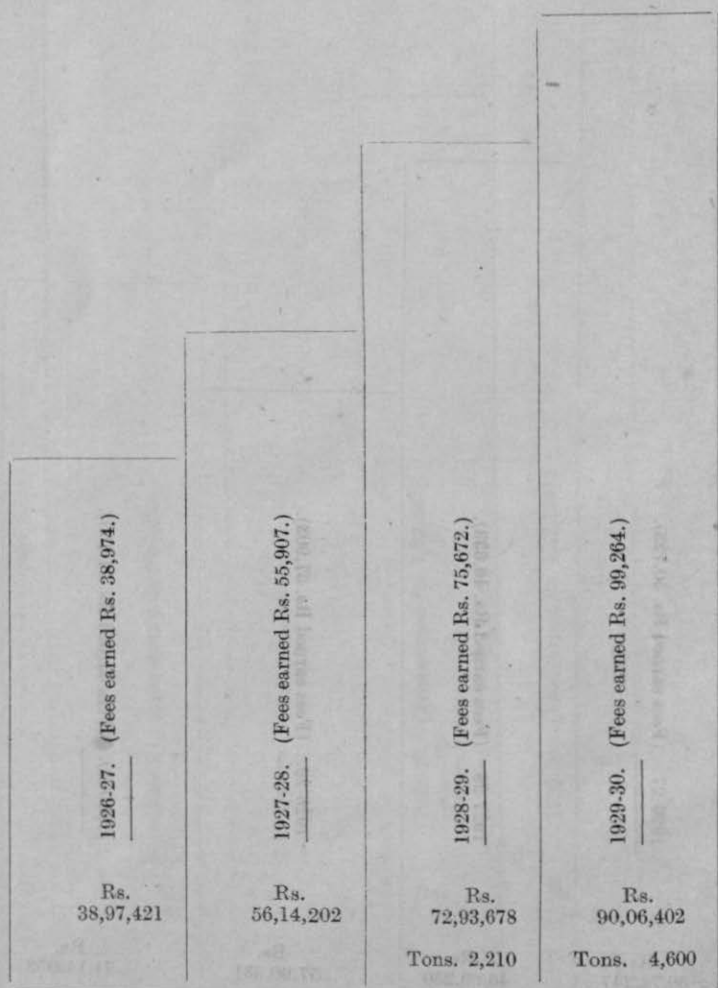
NOTE.—The diagrams represent fees earned, and not those actually adjusted during the year.



XI (*iv*)—KARACHI INSPECTION AGENCY.

(*Vide* paragraph 42 of the report.)

NOTE.—The diagrams represent fees earned and not those actually adjusted during the year.

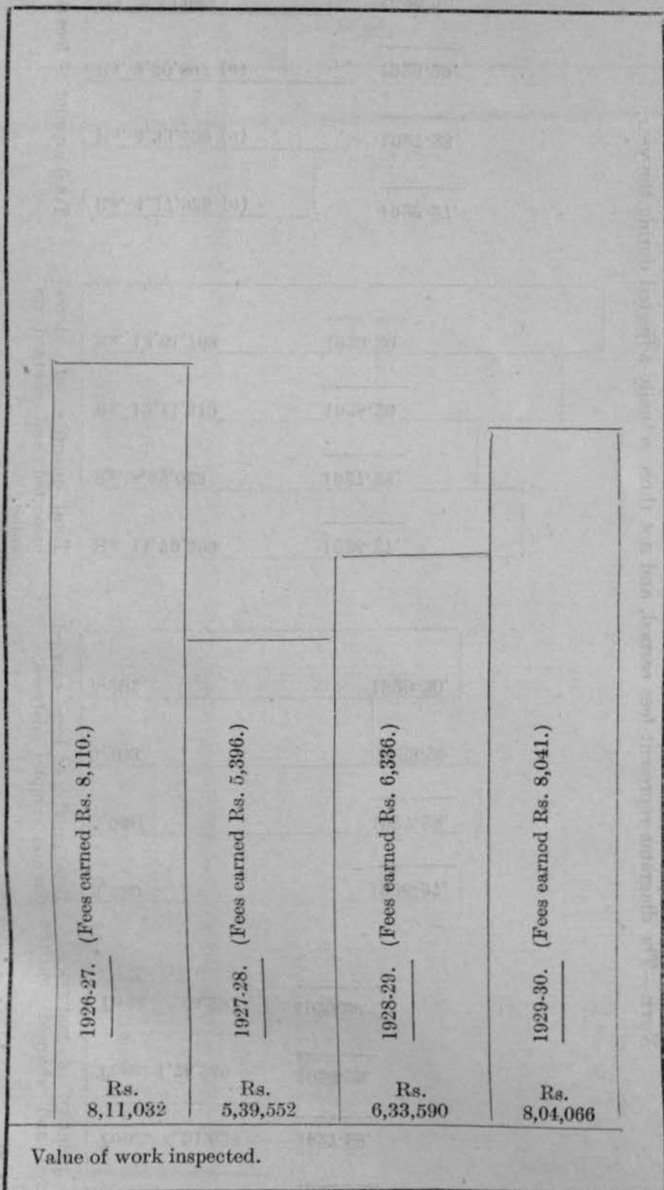


Value and tonnage of work inspected.

XI (*v*)—MADRAS INSPECTION BRANCH.

(*Vide* paragraph 43 of the report.)

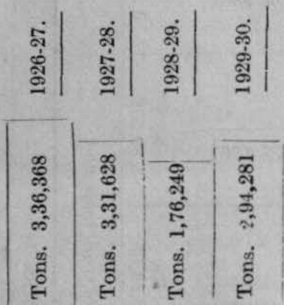
NOTE.—The diagrams represent fees earned and not those actually adjusted during the year.



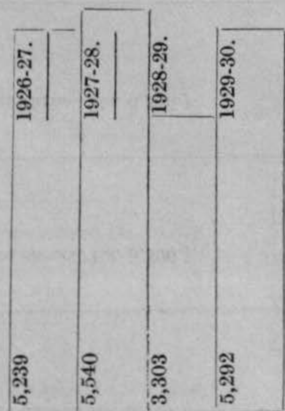
XI. (*vi*)—Metallurgical Inspectorate, Jamshedpur.

(*Vide* paragraph 44 of the report.)

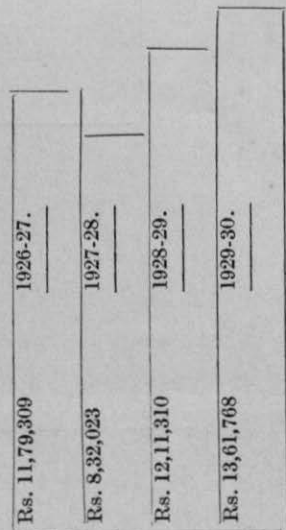
Note.—The diagrams represent fees earned, and not those actually adjusted during the year.



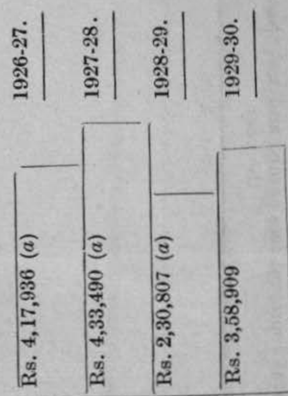
Total quantity of material inspected and charged on weight.



Total number of tests carried out and samples analysed.



Total quantity of stores inspected and charged on value.



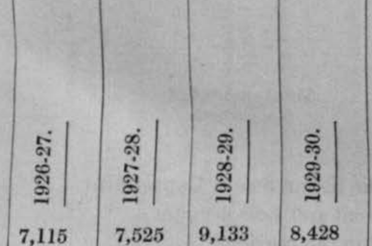
Total amount of fees earned.

(*a*) Fees earned on tests and inspections carried out for the Indian Stores Department, credit for which is shewn in the Profit and Loss Account, but which were not included in the previous reports, have been added.

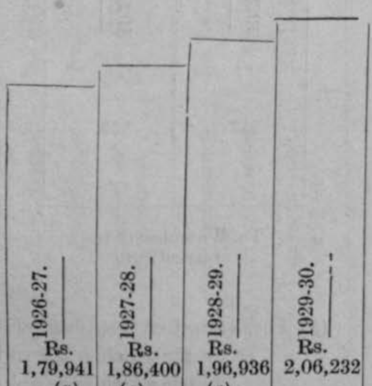
XI. (*vii*)—GOVERNMENT TEST HOUSE, ALIPORE, CALCUTTA.

(*Vide* paragraph 48 of the report.)

NOTE.—The diagrams represent fees earned, and not those actually adjusted during the year.



Total number of tests carried out.



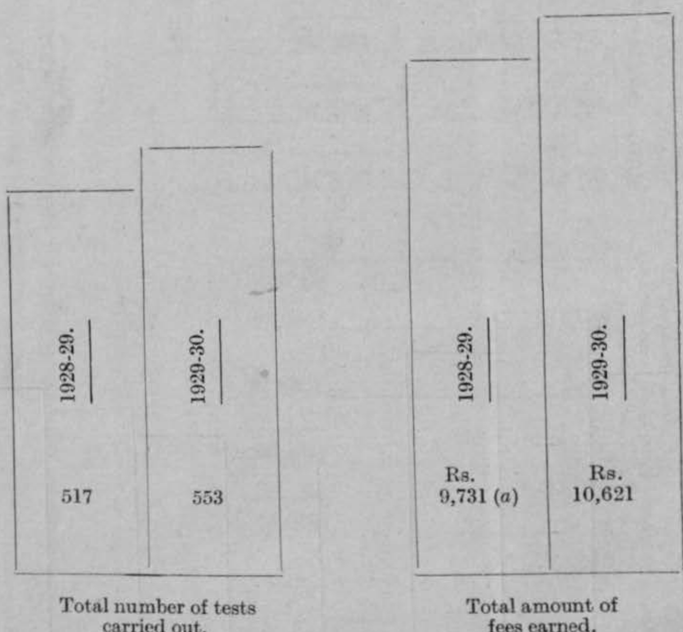
Total amount of fees earned.

(*a*) Fees earned on tests carried out for the Indian Stores Department, credit for which is shown in the Profit and Loss account, but which were not included in the previous reports, have been added.

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XI. (*viii*)—Government Test House, Bombay.

(*Vide* paragraph 40 of the report.)



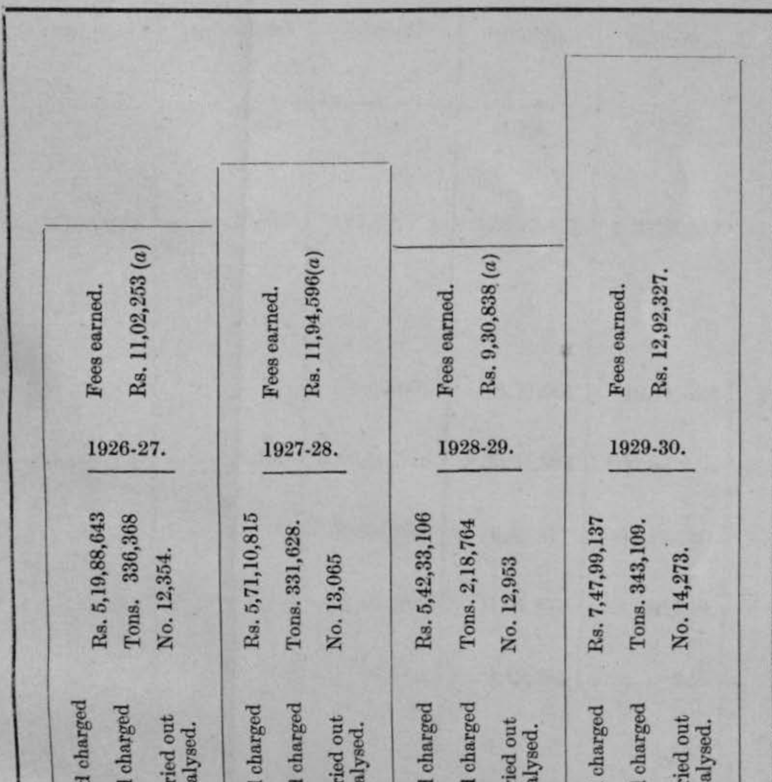
(*a*) Fees earned on tests carried out for the Indian Stores Department, credit for which is shown in the Profit and Loss account, but which were not included in the previous report, have been added.

XI (*ix*)—Abstract of total work done in the Inspection Branch of the Indian Stores department.

(*Vide* paragraph 6 of the report.)

(*a*) The figures shown in previous reports have been revised on account of adjustments subsequently made.

Note.—The diagrams represent fees earned and not those actually adjusted during the year.



APPENDIX XII.

Statement showing inspection work carried out for various authorities (material charged on value).

(*Vide* paragraph 1 of the report.)

Authorities on whose behalf stores were inspected.	Metallurgical Inspectorate Tatanagar.				Calcutta Inspection Circle.				Bombay Inspection Circle.			
	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I. Orders placed by the Indian Stores Department	6,79,309	1,65,546	1,35,981	11,68,607	72,42,374	72,18,506	84,52,683	1,11,68,984	39,50,500	61,95,789	55,88,025	78,85,779
II. Orders placed by other Departments—												
(1) Central Government—Departments—Civil	5,00,000	6,31,585	10,71,088	..	..	416	..	768	..	..	..	..
(2) Railways, State-worked ..	..	2,424	748	..	1,87,23,981	1,97,30,334	1,18,41,172	2,16,94,619	10,72,450	33,86,663	45,05,384	38,44,808
(3) Railways, Company-worked ..	..	22,000	..	..	80,80,863	60,60,680	60,86,441	1,00,72,775	17,23,620	15,58,297	20,33,228	13,84,347
(4) Railways—worked by Indian States.	..	..	..	..	34,660	92,725	6,830	58,385	1,11,666	74,745	32,836	68,217
(5) Provincial Governments ..	..	..	..	..	8,192	5,719	31	1,64,248	41,517	8,334	333	..
(6) Public bodies	..	..	..	..	..	5,94,347	1,240	1,45,369	..	..	..	10,542
(7) Private concerns and Indian States	.	10,468	3,493	1,93,161	38,811	5,35,233	7,55,334	10,372	..	..	660	2,330
(8) Foreign Governments and public bodies	..	..	..	..	..	..	..	400	..	..	..	..
Total ..	11,79,309	8,32,023	12,11,310	13,61,768	3,41,28,881	3,42,37,960	2,71,43,731	4,33,15,920	68,99,753	1,12,23,828	1,21,60,466	1,31,96,023

Authorities on whose behalf stores were inspected.	Karachi Inspection Agency.				Madras Inspection Branch.				Cawnpore/Upper India Inspection Circle.				Total value of Stores inspected and Charged on value.			
	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.	1926-27	1927-28.	1928-29.	1929-30.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I. Orders placed by the Indian Stores Department	37,29,682	48,94,554	44,75,338	56,35,886	8,11,032	5,39,552	6,33,590	8,04,066	43,07,617	45,59,530	57,52,906	70,82,063	2,07,20,514	2,35,73,477	2,50,38,523	3,37,45,385
II. Orders placed by other Departments—																
(1) Central Government—Departments—Civil	..	..	..	..	..	..	..	..	..	..	..	..	5,00,000	6,32,001	10,71,088	768
(2) Railways, State-worked ..	1,12,419	4,75,385	28,09,797	33,54,290	..	..	..	..	7,60,660	1,03,720	37,425	12,155	2,06,69,510	2,36,98,526	1,91,94,526	2,89,05 872
(3) Railways, Company-worked ..	..	..	7,591	..	..	..	..	..	..	..	..	..	98,04,483	76,40,977	81,27,260	1,14,57,122
(4) Railways—worked by Indian States.	..	..	952	16,226	..	..	..	..	..	..	..	..	1,46,326	1,67,470	40,618	1,42,828
(5) Provincial Governments ..	41,220	1,05,342	..	..	..	..	..	..	3,970	..	..	..	94,899	1,19,395	364	1,64,248
(6) Public bodies	..	142	..	..	..	..	..	..	..	..	..	..	..	5,94,489	1,240	1,55,911
(7) Private concerns and Indian States	14,100	1,38,779	..	..	..	..	..	..	..	..	..	..	52,911	6,84,480	7,59,487	2,05,863
(8) Foreign Governments and public bodies	..	..	..	..	..	..	..	..	..	..	..	20,740	..	..	..	21,140
Total ..	38,97,421	56,14,202	72,93,678	90,06,402	8,11,032	5,39,552	6,33,590	8,04,066	50,72,247	46,63,250	57,90,331	71,14,958	5,19,88,643	5,71,10,815	5,42,33,106	7,47,99,137

APPENDIX XII-A.

Statement showing inspection work carried out for various authorities, which is charged on weight.

(*Vide* paragraph 1 of the report.)

Authorities on whose behalf stores were inspected.	Metallurgical Inspectorate.				Calcutta Inspection Circle.		Bombay Inspection Circle.		Karachi Inspection agency.		Total Tonnage of stores inspected and charged on Weight.			
	1926-27.	1927-28.	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1. Central Government Departments Civil.	672	1,841	2,145	71	..	..	..	..	..	..	672	1,841	2,145	71
Railways, State-worked	111,568	130,343	30,641	64,192	17,940	16,602	591	80	2,210	4,600	111,568	130,343	51,382	85,474
3. Railways, Company-worked ..	48,592	59,899	57,598	62,735	20,229	23,123	..	..	..	..	48,592	59,899	77,827	85,858
4. Railways—worked by Indian States	..	..	9	1,840	..	..	..	..	..	..	..	..	9	1,840
5. Provincial Governments	..	..	..	..	..	6	..	..	..	..	..	..	..	6
6. Public bodies	..	..	..	..	..	679	..	..	..	..	..	..	..	679
7. Private concerns and Indian States ..	175,536	139,545	85,856	1,65,443	1,545	2,836	..	..	..	..	175,536	139,545	87,401	168,279
8. Foreign Governments and public bodies. ..	..	..	..	..	..	902	..	..	..	..	..	..	..	902
Total ..	336,368	331,628	1,76,249	2,94,281	39,714	44,148	591	80	2,210	4,600	336,368	331,628	218,764	343,109

APPENDIX XII.—B.

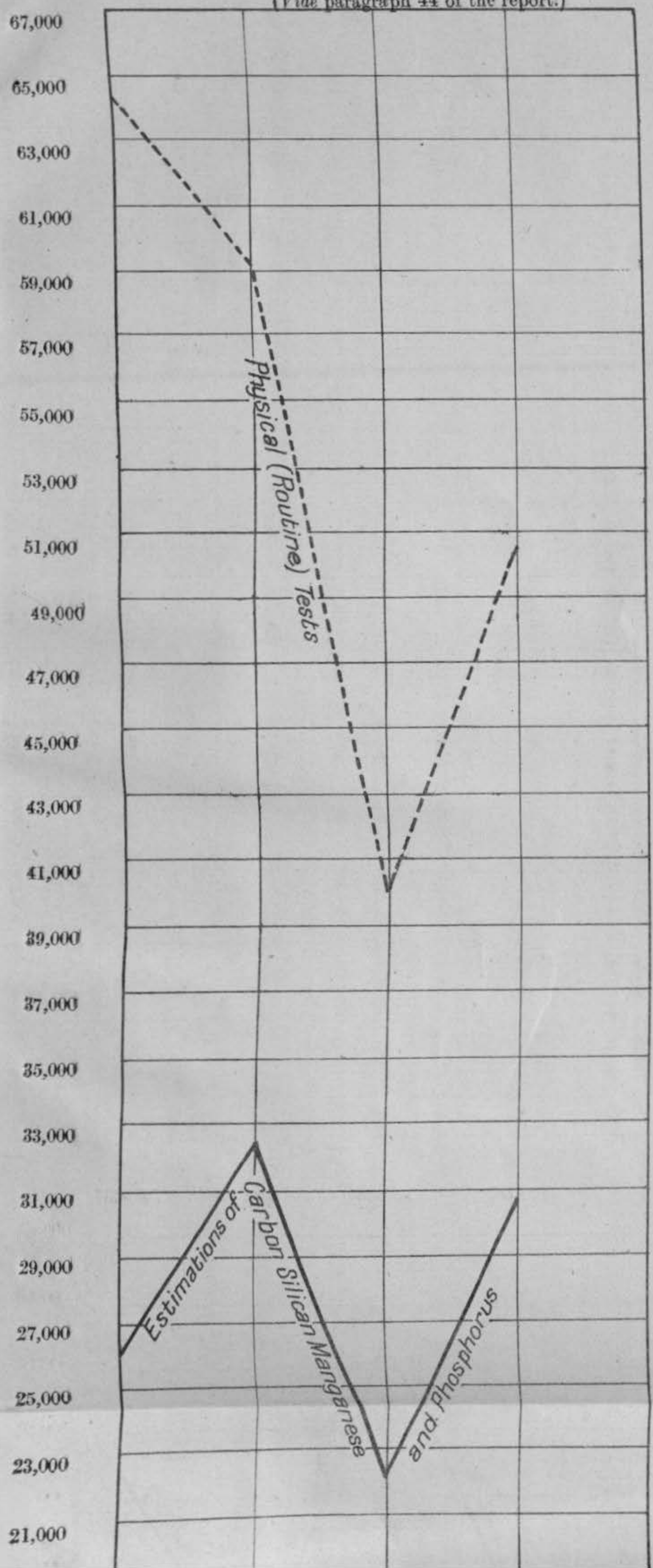
(Statement showing the Number of Tests and Analyses carried out for various authorities.)

(*Vide* paragraphs 1 & 48 of the Report.)

Authorities on whose behalf tests and analyses, etc., carried out.	Metallurgical Inspectorate.				Government Test House, Alipore.				Government Test House, Bombay.		Total number of tests and analyses carried out.			
	1926-27.	1927-28.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.	1928-29.	1929-30.	1926-27.	1927-28.	1928-29.	1929-30.
For the Indian Stores Department ..	18	6	46	26	2,309	2,942	2,584	3,358	492	543	2,327	2,948	3,122	3,927
Outside authorities—														
1. Central Government, Army ..	..	..	5	3	865	29	797	960	..	..	865	829	802	963
2. Central Government, Civil ..	..	..	3	12	427	217	184	281	..	2	427	217	187	295
3. Railways, State-worked ..	10	12	31	54	499	755	2,745	1,638	..	..	509	767	2,776	1,692
4. Railways, Company-worked	3	2	5	15	313 (4 and 5 together)	118 (4 and 5 together)	181	200	1	2	316 (4 and 5 together)	120 (4 and 5 together)	187	217
5. Railways, Indian State-worked	..	..	8	..			31	26	..	..			39	26
6. Provincial Governments ..	30	5	11	20	384	410	344	309	3	..	414	415	358	329
7. Public bodies	..	..	..	..	778	957	512	100	..	..	778	957	512	100
8. Private concerns and Indian States.	5,178	5,515	3,194	5,162	1,540	1,297	1,755	1,556	21	6	6,718	6,812	4,970	6,724
Total ..	5,239	5,540	3,303	5,292	7,115	7,525	9,133	8,428	517	553	12,354	13,065	12,953	14,273

GRAPH SHOWING THE NUMBER OF ESTIMATIONS (DAILY STEEL ANALYSIS) AND PHYSICAL (ROUTINE) TESTS CARRIED OUT AT THE METALLURGICAL INSPECTORATE DURING THE YEARS 1926-27 TO 1929-30.

(*Vide* paragraph 44 of the report.)



APPENDIX XIV.

Statement Showing the various articles tested at Government test house during the year 1929-30.
(*Vide* paragraph 48 of the Report.)

Serial No.	Article.	Serial No.	Article.
1	Acids.	26	Bronze.
2	Air.	27	Cables and wires.
3	Aluminium.	28	Cakes, oil.
4	Alumino ferric.	29	Calcium carbide.
5	Alum sulph.	30	Candles.
6	Aluminium sulphate.	31	Canvas.
7	Ammeter.	32	Carbon tetrachloride.
8	Ammonium sulphate.	33	Cells and batteries.
9	Antimony.	34	Celluloid.
10	Asbestos.	35	Ceiling roses.
11	Ash.	36	Cement.
12	Asphalt and bitumen.	37	Chains.
13	Axles N. G.	38	Chemicals.
14	Balance.	39	Chromite.
15	Barium carbonate.	40	Clay.
16	Barytes.	41	Coal and coke.
17	Beads.	42	Coal tar.
18	Belting.	43	Colfix.
19	Benzene and petrol.	44	Compound cleaning.
20	Blades hacksaw.	45	Concrete.
21	Blanket.	46	Copper, bars, plates, etc.
22	Boiler scales.	47	Cordages and twines.
23	Bolts and nuts.	48	Cotton, absorbant.
24	Brass, bars, rods, sheets.	49	Cupric chloride.
25	Bricks.	50	Deposits.

Serial No.	Article.	Serial No.	Article.
51	Effecer paints.	78	Lamps, electric.
52	Emery powder.	79	Lead.
53	Fabric cotton.	80	Lime.
54	Fabric, jute.	81	Manganese.
55	Fabric woollen.	82	Manometer.
56	Fans and regulators.	83	Manure.
57	Files of sorts and sizes.	84	Mercury.
58	Fittings vacuum brake.	85	Metals antifriction.
59	Gauges pressure.	86	Metlex plugs.
60	Gauze wire.	87	Meters electric.
61	Glazers enamelling.	88	Minerals.
62	Glue.	89	Molasses.
63	Gold laces.	90	Naphtha.
64	Gold leaf.	91	Oil, Creosote.
65	Graphite.	92	Oil, fish.
66	Grease and tallow.	93	Oil, fuel.
67	Gum.	94	Oil, kerosene.
68	Gun powder.	95	Oil, lubricating.
69	Hessians.	96	Oil, vegetable.
70	Hooks drawbar.	97	Paints and pigments.
71	Horn meal.	98	Paint remover.
72	Ink.	99	Paper.
73	Iron, angles, bars, plates, ete.	100	Pins.
74	Joists, rolled steel.	101	Pipes, asbestos.
75	Kankar.	102	Pipes, hose, canvas.
76	Khari salt.	103	Pipes, stoneware.
77	Knives.	104	Pipes strainer with a deposit.

Serial No.	Article.	Serial No.	Article.
105	Pitch.	127	Sleepers, Ry. steel.
106	Platinum.	128	Soap.
107	Polishes, french.	129	Soil.
108	Polishes, metal.	130	Solder.
109	Putty.	131	Soorki.
110	Rails.	132	Spirit.
111	Rail joints.	133	Spirit, level.
112	Rawl plugs.	134	Steel, angles, bars, plates, etc.
113	Rice indersal hard.	135	Stone.
114	Rivets steel.	136	Tachometer.
115	Ropes metallic.	137	Threads and yarns.
116	Ropes non-metallic.	138	Timber.
117	Sajee matee.	139	Tin.
118	Salt.	140	Tubes.
119	Sand.	141	Turpentine.
120	Scissors.	142	Varnishes.
121	Screws.	143	Voltmeter.
122	Screw coupling.	144	Water.
123	Seeds castor.	145	Wax.
124	Shellac.	146	Weights.
125	Sheets celotex.	147	Zinc.
126	Sheets, corrugated, G. I.		

APPENDIX XV.

Statement showing the various articles tested at the Government Test House, Bombay, during the yrear 1929-30.

(*Vide* paragraph 40 of the report.)

Serial No.	Articles.
1	Alumino Ferric.
2	Canvas, flax (Proofed and un-proofed).
3	Cloth, cotton (Physical and dye tests).
4	Cloth, woollen (Physical and dye tests).
5	Newars, cotton.
6	Metals (for hardness).
7	Paint (Red oxide, ready mixed).
8	Paint, black, anti-corrosive.
9	Putties, cotton (Physical and dye tests).
10	Rope, cotton (for particulars only).
11	Sewing thread.
12	Soap (hard and soft).
13	Solder (soft).
14	Yarn, cotton.
15	Yarn, woollen.

INDEX.

M30CPB(ISD)—500—18-7-30—GIPS